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Photo on the front cover:

Lankascincus deignani from Gannoruwa Forest Reserve, photo by S. Batuwita.

A REVIEW OF THE LIZARDS OF THE ENDEMIC GENUS *LANKASCINCUS* (REPTILIA: SCINCIDAE: LYGOSOMINAE) FROM SRI LANKA

SUDESH BATUWITA

CONTENTS

ABSTRACT. As a part of an ongoing revision of Sri Lankan scincid lizards, I review the genus *Lankascincus* Greer on the basis of their morphology and morphometric data. I demonstrate that the long-disputed *Sphenomorphus megalops* (Annandale) is in fact a *Lankascincus* species, and a neotype is designated. *Lankascincus deraniyagalae* Greer and *L. munindradasai* Wickramasinghe, Rodrigo, Dayawansa, and Jayantha are shown to be junior subjective synonyms of *L. fallax* (Peters) and *L. taprobanensis* (Kelaart), respectively. *Lankascincus deignani* (Taylor) is confined to the forests around Kandy and does not extend to Nuwaraeliya and its environs. Previous records of *L. deignani* from Nuwaraeliya and surrounding localities are reidentified as *L. sripadensis* Wickramasinghe, Rodrigo, Dayawansa, and Jayantha. Three groups of *Lankascincus* species are identified on the basis of their morphology and breeding biology: the *fallax*, *taprobanensis*, and *dorsicatenatus* groups. Each group has a unique combination of characters. *Lankascincus taprobanensis* is restricted to high-elevational regions (≥1,500 m above mean sea level). Previous records from lower elevations (Sinharaja, Knuckles Range, and Peradeniya) are based on misidentified specimens of other *Lankascincus* spp. *Lankascincus fallax* has a wide distribution in Sri Lanka. *Lankascincus deignani* is restricted to Gannoruwa Forest Reserve and the Ambagamuwa area and is the most endangered skink in Sri Lanka. Ecologically, *Lankascincus* comprises a largely forest-dwelling species group (*L. deignani*, *L. dorsicatenatus* (Deraniyagala), *L. gansi* Greer, *L. greeri* Batuwita and Pethiyagoda, *L. megalops* new combination, and *L. taprobanensis*) and a group of species that live in altered habitats (*L. sripadensis*, *L. fallax*, and *L. taylori*). The present study confirms that the genus *Sphenomorphus* Fitzinger is not represented in Sri Lanka. Because of a lack of comprehensive genetic data to support a previously described new family, Ristellidae Hedges for *Lankascincus* and *Ristella* Gray, here I assign both genera into a new tribe, Ristellini. Phylogenetic relationships of *Lankascincus* and *Ristella* remain unresolved.

Key words: Endanger, India, Litter Skink, *Sphenomorphus megalops*, Wet Zone

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INTRODUCTION

Sri Lankan scincid lizards have a high species diversity, with 34 species within the seven genera (Somaweera and Somaweera, 2009; IUCN, 2012; Lavin and Papenfuss, 2012; Batuwita, 2016; Batuwita and Edirisinghe, 2017) that belong to two subfamilies: Lygosominae and Scincinae (Mittleman, 1952; Pyron et al., 2013). Only three of these genera are endemic to Sri Lanka: *Chalcidoseps* Boulenger, *Lankascincus* Greer, and *Nessia* Gray. *Lankascincus* was erected in the late-20th century and most of the small to medium-sized pentadactyl litter-dwelling skinks of Sri Lanka were assigned to it by Greer (1991) when he resolved the taxonomy of these lygosomine skinks. They are the most abundant skinks in Sri Lanka (Austin et al., 2004; Somaweera and Somaweera, 2009). However, the taxonomy of these lizards has not been reassessed recently. In addition, the taxonomic status of two other data-deficient lygosomine skinks, *Sphenomorphus megalops* (Annandale) and *S. dussumieri* (Duméril and Bibron), have also long been disputed because of lack of recent material and the loss of the type material.

Greer (1991) was uncertain of the affinities of *Lankascincus* with two major groups of lygosominae in the *Eugongylus* group (Eugongylini) and the *Sphenomorphus* group (Sphenomorphini) because he had not an opportunity to examine the hemipenis morphology of *Lankascincus*. However, he stated that *Lankascincus* possesses several Eugongylini characters: premaxillary teeth $\geq$ 11; inner preanals overlapped by outer; supradigital scales mostly in a single row; a single temporal and a nuchal bordering each posteriolateral edge of parietal; and iris color brighter than the pupil color. Austin et al. (2004) proposed an independent lineage for *Lankascincus*, separating it from the major groups of lygosomine skinks, though the phylogenetic affinities among the groups remained uncertain (see also Somaweera and Somaweera, 2009; Pyron et al., 2013). Even though Pyron et al. (2013) showed that *Lankascincus* and *Ristella* Gray cannot be recognize as a subfamilial group, Hedges (2014) erected a new family, Ristellidae, for *Lankascincus* and *Ristella*.

Greer (1991) described three new species: *Lankascincus deraniyagalae* Greer, *L. gansi* Greer, and *L. taylori* Greer and also assigned three previously described species to the genus: *L. deignani* (Taylor), *L. fallax* (Peters), and *L. taprobanensis* (Kelaart). Previously, Wickramasinghe et al. (2007) described two new species of *Lankascincus* from Central Hills of Sri Lanka (Peak Wilderness): *L. munindradasai* Wickramasinghe, Rodrigo, Dayawansa, and Jayantha and *L. sripadensis* Wickramasinghe, Rodrigo, Dayawansa, and Jayantha. In the same year, Batuwita and Pethiyagoda (2007) described *L. greeri* Batuwita and Pethiyagoda from rain forests of the lowland wet zone of Sri Lanka. In addition, Batuwita and Pethiyagoda (2007) rediscovered a paratype of *Sphenomorphus dorsicatenatus* Deraniyagala in the National Museum Colombo (NMSL) and used this to assign that name to a distinct species of *Lankascincus*.

Batuwita and Pethiyagoda (2007) did not examine any new material of either *L. deignani* or *L. deraniyagalae* from their respective type localities (Gannoruwa and Punduluoya). However, in late 2007, I discovered a single specimen of *Lankascincus* from Mount Gannoruwa (the type locality of *L. deignani*) that was rather different from the species previously identified as *L. deignani* from the Central Hills by Greer (1991) and Batuwita and Pethiyagoda (2007). I noticed the Mount Gannoruwa species reported as a new species by Ukuwela and Nayana Pradeep Kumara (2004, plate 3, fig. 1). Recent records for *L. deignani* from Gannoruwa and its environs are unavailable, but the Central Hills populations are common (e.g., at Agarapatana, Labukele, Bogawanthalawa, and Na-

Figure 1. *Lankascincus taprobanensis,* WHT 6570, Hakgala, Nuwaraeliya District.

nuoya) (Greer, 1991, fig. 2A; Batuwita and Pethiyagoda, 2007). Hence, the discovery of a *L. deignani*-like specimen from Gannoruwa led me to examine the holotype of *L. deignani* in the National Museum of Natural History, Washington, D.C. (USNM), which revealed that it was distinct from the Central Hills populations (found around Nuwaraeliya). *Lankascincus deraniyagalae* is another rare species: Batuwita and Pethiyagoda (2007) reported only museum specimens for its distribution because no modern material in the collections of the NMSL and the Wildlife Heritage Trust of Sri Lanka (WHT) matched the original description of the species.

Two species of *Sphenomorphus* Fitzinger have also been recorded from Sri Lanka: *S. dussumieri* and *S. megalops*. The former species, otherwise restricted to India, was reported on the basis of a single unlocalized specimen, now lost, by Deraniyagala (1931, 1953). Greer (1991) stated that the record of *S. dussumieri* might not represent a *Lankascincus*. Subsequent authors (e.g., Austin et al., 2004; Somaweera and Somawera, 2009) concluded that the record of *S. dussumieri* is an error. The taxonomic status of *Sphenomorphus megalops* has also long

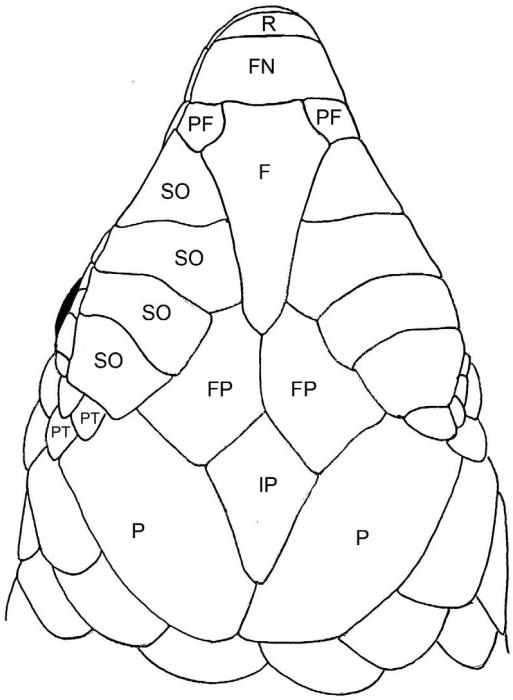

Figure 2. Dorsal view of head of *Lankascincus taprobanensis,* WHT 6573, Loolcondera Estate, Kandy District (R, rostral; FN, frontonasal; F, frontal; FP, frontoparietals; IP, interparietal; P, parietals; SO, supraoculars; PT, pretemporals). Scale bar = 1 mm.

been disputed (Deraniyagala, 1931, 1953; Taylor, 1950; Greer, 1991). However, Smith (1935) stated, "The types cannot now be found, and I have tentatively placed the species near *taprobanense* (=*Lankascincus taprobanensis*); by the author it was originally placed under *Dasia* (section)." Greer (1991) also considered that it is insertae sedis within the lygosomine skinks. Because of the lack of subsequent records, both *Sphenomorphus* species have long been neglected and have been considered as data-deficient species in Sri Lanka (IUCN, 1999, 2007, 2012).

The purpose of this account is to provide a taxonomic review of the endemic genus *Lankascincus* and to discuss their biogeography, distribution, and conservation.

MATERIALS AND METHODS

The following measurements were taken under a Leica dissecting microscope with the aid of a KWB dial caliper (to the nearest 0.1 mm): trunk length (distance between posterior axilla [anterior margin of forelimbs] and anterior groin [anterior margin of hind limbs] when the limbs were held out at right angles to the body wall); eye diameter (the posterior margin of the preoculars to the anterior margin of the postoculars); snout length (distance between anteriomost point of orbit and tip of snout); ear length (largest diameter of ear opening, irrespective of orientation); forelimb length (distance from axilla to fourth digit of manus, excluding the claw when the limb held at right angles to the body wall); head length (distance between posterior edge of mandible and tip of snout); hindlimb length (distance from groin to fourth digit of pes, excluding the claw when the limb is held at right angles to the body wall); snout to axilla (distance between snout tip to axilla when the limb is held at right angles to the body wall); snout–vent length (SVL; distance between tip of snout and anterior margin of cloacal opening); and tail length (distance between anterior margin of vent to tail tip).

Meristic characters were taken with the aid of a dissecting microscope: paravertebrals were counted in a single row from the first scale behind the parietal scales to the scale anterior to a line connecting the posterior edges of the thighs when held perpendicular to the long axis of the body; ventral scales were counted in a single row between the mental and preanal scales (from the first scale posterior to the mental scale to the last scale anterior to the median preanal scales, inclusive); the most posterior infralabial is the one opposing the last supralabial without extending posterior to it; two or more rows of supradigital scale rows describe a single complete supradigital scale row with additional short row/s; subdigital lamellae were counted as all scales under the fourth digit of manus and pes that are distinctly wider than palm/sole scales. Unless otherwise stated, bilateral scale counts of individual specimens were taken on the left side of the body. Sex was determined by the presence of ovaries (by dissection) in females and hemipenes in males.

Comparisons were made with preserved materials in the collections of the Carnegie Museum of Natural History, Pittsburgh (CM), Field Museum of Natural History, Chicago (FMNH), Museum of Comparative Zoology, Cambridge (MCZ), NMSL including WHT collection now in NMSL, USNM, and the Zoologisches Museum Berlin (ZMB), and from published descriptions of Deraniyagala (1931, 1953), Taylor (1950), and Greer (1991). Unless otherwise stated, only NMSL and WHT materials were used for the mensural and meristic data. Institutional abbreviations follow Sabaj Pérez (2010). All materials from Sri Lanka and materials listed in Appendix I refer to the specimens identified for the purpose of distribution and to document available material, but that were not used in the descriptions.

Elevations are given in meters above mean sea level (msl); geographic coordi-

nates were taken using topographic maps (1 inch: 1 mile, Survey Department, Colombo). Photographs were taken with a Canon IXUS 50 digital camera.

SYSTEMATICS

Scincidae Gray

Lygosominae Mittleman

Ristellini new tribe (type genus: *Lankascincus* Greer, 1991: 59)

Other genera includes: *Ristella* Gray, 1839: 333. For general description see Higher Taxonomy and Biogeography under DISCUSSION.

Species of the genus *Lankascincus* (together with *Ristella*) was assigned to a new family Ristellidae by Hedges (2014). However, present data are insufficient to support this view (see also Pyron et al., 2013); hence, I here allocated these two closely related genera (*Lankascincus* and *Ristella*) into a new tribe, Ristellini, until the comprehensive genetic data support this division. Moreover, recent genetic studies inadequate to evaluate the relationships of Sri Lankan endemic lygosomine species, e.g., the endemic *Eutropis* clade inhabiting in the second and the third peneplains with *Lankascincus* (see Austin et al., 2004; Das et al., 2008) as well. This endemic clade shares a few characters with *Lankascincus*, e.g., chin shields and postmental scale arrangements (Batuwita, 2016, vs. this paper).

Lankascincus Greer

Lankascincus Greer, 1991: 59 (type species: *Lygosoma fallax* Peters, 1860: 184)

Geographic Distribution. Endemic to Sri Lanka.

Lankascincus taprobanensis (Kelaart)

Eumeces taprobanensis Kelaart, 1854: 21

Lygosoma punctatolineatum (not of Boulenger, 1893) Boulenger, 1907:173

Sphenomorphus striatopunctatus Ahl, 1925:20 (replacement name for *Lygosoma punctatolineatum* Boulenger, 1907)

Lankascincus taprobanensis Greer, 1991: 62; Somaweera and Somaweera, 2009: 236

Lankascincus munindradasai Wickramasinghe, Rodrigo, Dayawansa and Jayantha, 2007: 4 (here synonymized)

(Figs. 1–5; Table 1)

Material Examined. BMNH 1946.8.3.21 (syntype of *Eumeces taprobanensis*), Nuwaraeliya, Sri Lanka; BMNH 1946.8.3.20 (syntype of *Eumeces taprobanensis*), Nuwaraeliya, Sri Lanka; WHT 1509, Namunukula Range, Badulla District (Uva Province), 06°56′N, 81°07′E, 1,900 m; WHT 2014, WHT 2096, WHT 2097A, WHT 2097B, WHT 6571, WHT 6572, Horton Plains National Park, Nuwaraeliya District (Central Province), 06°48′N, 80°48′E, 2,150 m; WHT 2016, Peak Wilderness, Nuwaraeliya District (Central Province), 06°49′N, 80°30′E, 2,140 m; WHT 6570, Hakgala, near Hakgala Botanical Garden, Nuwaraeliya District (Central Province), 06°55′N, 80°49′E, 1,830 m; WHT 6573, Loolcondera Estate, near Galaha, Kandy District (Central Province), 07°08′N, 80°42′E, ~1500 m; WHT 6596, Agra-Bopaththalawa Forest Reserve, near Agarapatana, Nuwaraeliya District (Central Province), 06°50′N, 80°40′E, 1,700 m; holotype (NMSL20072101) and paratype (NMSL20072102) of *L. munindradasi* Wickramasinghe, Rodrigo, Dayawansa, and Jayantha, 2007, Peak Wilderness, Nuwaraeliya District (Central Province), 06°48′25″N, 80°30′41″E, 1,825 m.

Diagnosis. Distinguished from all other species of *Lankascincus* by the following combination of characters: prefrontals widely separated, frontal in broad contact with frontonasal (suture between frontonasal and frontal about half of/more than the length of

Figure 3. Lateral view of *Lankascincus taprobanensis*, syntype, BMNH 1946.8.3.21. Scale bar = 10.0 mm.

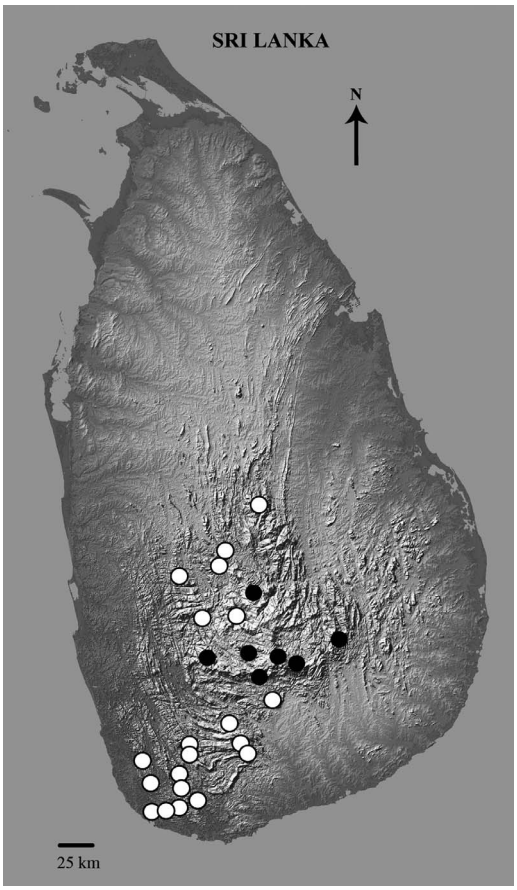

Figure 4. Distribution records of *Lankascincus taprobanensis* (closed circles) and *L. gansi* (open circles).

Figure 5. Prehensile tail of *Lankascincus taprobanensis*.

TABLE 1. MERISTIC AND MORPHOMETRIC (IN MM) DATA OF *LANKASCINCUS TAPROBANENSIS* AND *L. FALLAX* (TAIL LENGTH MEASURED FROM EIGHT EXAMPLES OF EACH SPECIES).

	Lankascincus taprobanensis							
	L. taprobanensis ($n = 11$)			Holotype and Paratype of *L. munindradasai* (=*L. taprobanensis*), Respectively		*L. fallax* ($n = 21$)		
	Range	Mean	SD			Range	Mean	SD
Mid-body scales	24–26	24.7	0.9	24	24	24–28	26.0	0.8
Ventral scales	53–68	62.0	4.6	60	61	53–64	59.8	3.0
Paravertebral scales	53–66	59.5	4.5	53	53	46–55	50.7	2.5
Supraciliaries	7–9	7.8	0.6	8	8	8–9	8.8	0.4
Subdigital lamellae—fourth digit of manus	7–10	8.5	0.9	8	9	9–12	11.0	1.5
Subdigital lamellae—fourth digit of pes	9–13	11.4	1.2	12	11	15–18	16.2	0.9
Snout–vent length (SVL)	31.0–49.0	39.3	6.3	39.0	35.5	28.5–43.5	35.0	3.7
Tail length	48.0–66.0	56.4	6.4	51.5	29.0 (regenerated)	31.5–67.0	43.6	14.0
Trunk length	17.5–30.5	23.8	4.5	23.0	19.5	16.0–26.0	20.2	3.3
Snout-to-axilla length	11.0–16.0	14.2	1.8	14.0	13.5	10.5–16.0	12.2	1.8
Head length	6.3–9.3	7.7	0.9	7.0	6.9	6.1–8.8	7.3	0.7
Forelimb length	6.5–10.0	8.3	1.2	8.0	7.0	6.0–10.0	7.9	0.9
Hind-limb length	9.0–13.0	11.1	1.5	11.0	10.0	10.0–13.5	11.6	0.9
Eye diameter	1.7–2.5	2.1	0.2	1.7	1.6	1.2–2.2	1.7	0.3
Ear opening size	0.3–0.7	0.5	0.1	0.4	0.3	0.1–0.6	0.4	0.2
Head length/SVL%	18.1–22.9	19.8	1.4	17.9	19.4	19.0–23.6	20.9	1.1
Trunk length/SVL%	56.5–63.3	60.2	2.3	59.0	54.9	56.1–63.0	57.8	6.8
Forelimb length/SVL%	18.1–23.9	21.1	1.8	20.5	19.7	20.0–33.9	22.7	3.0
Hind-limb length/SVL%	24.4–32.3	28.5	2.5	28.2	28.2	29.6–37.3	33.2	2.3
Eye diameter/head length%	21.3–32.8	27.1	3.7	24.3	23.2	17.3–28.4	23.8	3.2
Ear opening size/eye diameter%	13.0–33.3	21.9	5.9	23.5	18.8	7.1–35.3	19.3	8.8

posterior border of frontonasal); supralabials six; last supralabial subequal to the preceding supralabial; subdigital lamellae under the fourth digit of pes 9–13; adpressed limbs not overlapping.

Redescription (Figs. 1–3; Table 1). A medium-sized skink (maximum SVL 49.0 mm) with relatively short limbs. Head relatively short (head length 18.1–22.9% of SVL). Snout obtusely pointed in both lateral and dorsal aspects; rostral broader than long, visible dorsally; supranasals absent; frontonasal wider than long; prefrontals widely separated, frontal in broad contact with frontonasal (suture between frontonasal and frontal about half of/more than the length of posterior border of frontonasal); frontal subtriangular; supraoculars four, only first and second in contact with frontal; frontoparietals two, contacting second, third, and fourth supraoculars; interparietal present; parietal eye spot present in interparietal; parietals contacting posterior to interparietal; nuchals undifferentiated. Nasal larger than nostril; postnasals absent; loreals one ($n = 5$) or two ($n = 5$) (posterior loreal larger than the anterior loreal); preoculars two; supraciliaries seven to nine, in a continuous row; first supraciliary contacting prefrontal and first supraocular, last supraciliary projecting onto supraocular shelf; pretemporals two, both in contact with parietal; complete row of suboculars, last in contact with lower pretemporal; lower eyelid moveable, scaly; primary temporal one; secondary temporals two, upper elongate, lower pretemporal overlapping parietal (posteriorly) and primary temporal

(ventrally); primary temporal overlapping secondary temporals; upper secondary temporal overlapping lower secondary temporal ventrally; tertiary temporals two; supralabials six, fourth in subocular position; postsupralabials two. External ear opening 13.0–33.3% of eye diameter, circular in shape, without lobules. Mental wider than long; postmental wider than long, contacting first infralabial only; infralabials five; three pairs of enlarged chin shields; first pair in contact medially; second and third pairs separated medially by a single scale; third pair of chin shields separated from infralabial row by a sublabial row. Body relatively long (trunk length 56.5–63.3% of SVL). Scales cycloid, striae on dorsal, lateral, and ventral scales; longitudinal scale rows at mid-body 24–26; paravertebrals 53–66 equal in size; ventral scales 53–68; inner preanals overlapped by outer. Both pairs of limbs pentadactyl; forelimb length 18.1–23.9% of SVL; hind-limb length 24.4–32.3% of SVL; single row of supradigital scales on all digits; subdigital lamellae under fourth digit of manus 7–10 and subdigital lamellae under fourth digit of pes 9–13; SVL 31.0–49.0 mm; SVL 4.4–5.6 times head length; tail length 48.0–66.0 mm (eight examples).

Color in Life. Olive brown or dark brown in color; females with a series of dark dashes through the centers of each dorsal scale on the neck and trunk forming series of longitudinal stripes. Male with white or bluish iridescent throat markings; female throat color light brown, similar to ventral coloration (Figs. 1, 5).

Color in Preservative. Dorsally olive brown with four or five longitudinal stripes; distinct dorsolateral line present; ventral side dusky brown (Fig. 3).

Distribution. This species is restricted to the Central Hills of Sri Lanka above 1,500 m msl: summit of Peak Wilderness (Sabaragamuwa Province), Peak Wilderness (Central Province), Agra-Bopaththalawa Forest Reserve, Horton Plains National Park (Nuwaraeliya District), Namunukula Range (Badulla District), Loolcondera Estate near Galaha (Kandy District) (Fig. 4).

Natural History Notes. This species lives in leaf litter and under large stones and decaying logs in the Central Hills. Females ($n = 2$) contained two large follicles in the left ovary, suggesting a brood size of two (collected on 2 December 1999).

Comparisons. Here I compare *L. taprobanensis* with other congeners, listing only opposing suites of character states. *Lankascincus fallax*: two primary temporals and seven supralabials; *L. megalops*: last supralabial smaller than the preceding supralabial, seven supralabials, and prefrontals in broad contact; *L. deignani*: prefrontals in broad contact, seven supralabials, and 19–20 subdigital lamellae under fourth digit of pes; *L. dorsicatenatus*: last supralabial smaller than the preceding supralabial, seven supralabials, and prefrontals in broad contact; *L. taylori*: prefrontals in contact and seven supralabials; *L. gansi*: last supralabial smaller than the preceding supralabial, seven or eight supralabials, and prefrontals in broad contact; *L. sripadensis*: prefrontals in broad contact, seven supralabials, and 16–19 subdigital lamellae under fourth digit of pes; *L. greeri*: subocular pale spot, prefrontals in broad contact, seven supralabials, and 19–20 subdigital lamellae under fourth digit of pes.

Remarks. *Lankascincus taprobanensis* shows head-scale reduction, which is common in subfossorial skinks (e.g., *Nessia* Gray) (see also Miralles et al., 2011, 2016). It has a lower number of supralabials, shows variation in the number of loreal scales (one or two), and its prefrontals are widely separated (frontal in broad contact with frontonasal), with snout length reduced because of these scale arrangements (Fig. 2). Its subfossorial lifestyle may relate to the harsh climatic conditions within its distribution: ~17°C average temperature and 84% average relative humidity in the Nuwaraeliya and its environs (all localities >1,500 m msl). I was unable to find this

species during the rainy months/cold season (7–15°C). The tail of this species has been reported to be prehensile (De Silva, 1997; personal observation, Fig. 5). The tail of *Lankascincus* congeners are as thick as body, facilitating locomotion. They can push their body forward by using their tails (personal observation).

Lankascincus fallax (Peters)

Lygosoma fallax Peters, 1860: 184
Sphenomorphus rufogulus Taylor, 1950: 504
Lankascincus fallax Greer, 1991: 60
Lankascincus deraniyagalae Greer, 1991 (here synonymized): 62
Lankascincus deraniyagalae Somaweera and Somaweera, 2009: 221, 226, fig. 260B
(Figs. 6–16; Table 1)

Material Examined. ZMB 3762 (syntype of *Lygosoma fallax*), "Ratnapura, Trinkomalie" (Trincomalee); FMNH 120229, 19.2 km N of Trincomalee, Ceylon (holotype of *Sphenomorphus rufogulus* Taylor); BMNH 95.7.23.28C, "Punduloya, Ceylon" (holotype of *Lankascincus deraniyagalae* Greer); BMNH 1895.7.23.28D, 1895.7.23.28E, "Punduloya, Ceylon" (paratypes of *Lankascincus deraniyagalae* Greer); SMF 15460 (paratype of *Lankascincus deraniyagalae* Greer), "Point de Galle" (near Galle); WHT 6551, WHT 6552, WHT 6553, WHT 6554, WHT 6555, Kotagala, near Tunnel (Central Province), 06°55′54″N, 80°37′17″E, 1,200 m; WHT 6557, Pallegama, Knuckles Range, Matale District (Central Province), 07°32′N, 80°49′E, 185 m; WHT 6558, Udugama, Galle District (Southern Province), 06°14′N, 80°20′E, 150 m; WHT 6559, Kombala-Kottawa Forest Reserve, Hiyare, near Galle (Southern Province), 06°04′N, 80°15′E, 60 m; WHT 6560, Punduluoya, Nuwaraeliya District (Central Province), 07°01′19″N, 80°39′59″E, 1,100 m; WHT 6561,WHT 6562, WHT 6563, Kalahagala, near Polonnaruwa, (North Central Province), 07°52′N, 80°56′E, 60 m; WHT 6564, Wattegama (Central Province), 07°20′N, 80°40′E, 400 m; WHT 6565, Pussellawa, Nuwaraeliya District (Central Province), 07°05′N, 80°30′E, 900 m;WHT 6579, WHT 6601, WHT 6606, Kandewatta, Galle District (Southern Province), 06°23′N, 80°12′E, ~2 m; WHT 6602, Gonapinuwala, near Galle District (Southern Province), 06°09′N, 80°08′E, 20 m; WHT 6603, Kombala-Kottawa Forest Reserve, Kottawa, Galle District (Southern Province), 06°06′N, 80°20′E, 60 m; WHT 6605, Nawinna, Galle District (Southern Province), 06°04′N, 80°12′E, ~5 m.

Diagnosis. Distinguished from all other species of *Lankascincus* by the following combination of characters: supraciliaries 8–9; primary temporals two; secondary temporals two, in contact, upper not elongate; supralabials seven; last supralabial subequal to the preceding supralabial; postsupralabials two; paravertebrals 46–55, similar in size; ventral scales 53–64; transverse scale rows across mid-body 24–28; subdigital lamellae under fourth digit of manus 9–12; subdigital lamellae under fourth digit of pes 15–18; maximum SVL 43.5 mm; adpressed limbs not overlapping; general body color of males light brown, with black or red throat, some subadult males with red belly, females and juveniles with, on each side, two black dorsolateral lines and in between them a light brown dorsolateral line (Fig. 11).

Redescription (Figs. 6–11; Table 1). A medium-sized skink (maximum SVL 43.5 mm) with relatively short limbs. Head relatively short (head length 19.0–23.6% of SVL). Snout bluntly pointed in lateral and dorsal aspects; rostral broader than long, visible dorsally; supranasals absent; frontonasal wider than long, contacting or not contacting frontal; prefrontals widely separated (not in contact in syntype and in three examples examined) or narrowly in contact with each other ($n = 5$); Fig. 10) or broadly in

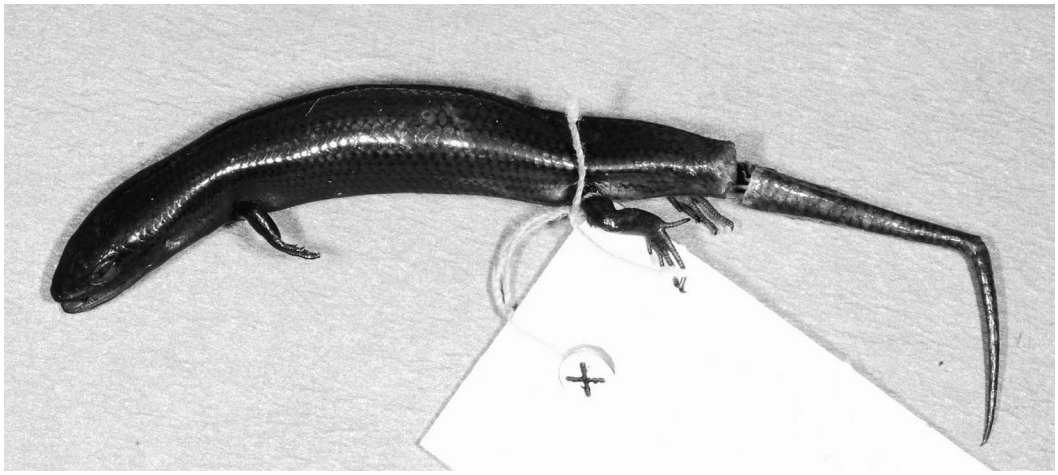

Figure 6. Dorsolateral view of *Lankascincus fallax,* syntype, ZMB 3762, Trincomalee.

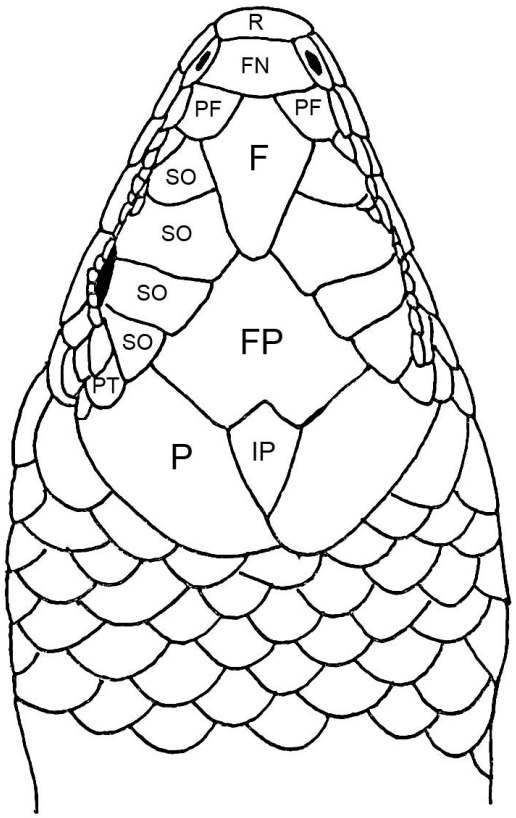

Figure 7. Dorsal view of head of *Lankascincus fallax* (redrawn from Taylor, 1950) (R, rostral; FN, frontonasal; F, frontal; IP, interparietal; P, parietal; SO, supraoculars; PT, pretemporal).

contact with each other ($n = 13$ and in FMNH 120229); supraoculars four, first and second in contact with frontal; frontoparietals fused ($n = 21$) or paired ($n = 4$); in contact with second, third, and fourth supraoculars; interparietal present, parietal eyespot present in interparietal; parietals in contact posterior to interparietal; nuchals undifferentiated. Nasal larger than nostril; postnasals absent; loreals two; posterior loreal larger than anterior. Preoculars two; supraciliaries eight to nine, in a continuous row; first supraciliary contacting prefrontal and first supraocular; last supraciliary projecting onto supraocular shelf; pretemporals two, both in contact with parietal; suboculars in a complete row; last subocular in contact with lower pretemporal; lower eyelid moveable, scaly; primary temporals two, in contact, upper larger than lower; secondary temporals two, equal in size, in contact with each other; upper secondary temporal overlapped by lower pretemporal and parietal anteriorly and upper primary temporal ventrally, and overlapping lower secondary temporal; tertiary temporals two or three; supralabials seven, last supralabial subequal to the preceding supralabial; postsupralabials two. External ear opening 7.1–35.3% of eye

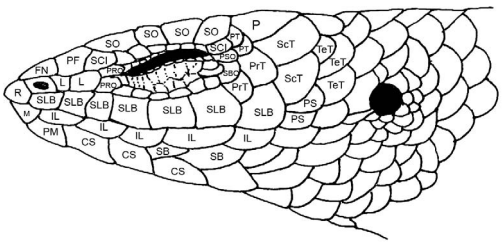

Figure 8. Lateral view of head of *Lankascincus fallax* (redrawn from Taylor, 1950) (R, rostral; FN, frontonasal; F, frontal; IP, interparietal; P, parietal; L, loreal; SLB, supralabials; PS, postsupralabials; SCI, supraciliaries; SO, supraoculars; PRO, preoculars; SBO, suboculars; PSO, postsuboculars; PT, pretemporals; PrT, primary temporals; ScT, secondary temporals; TeT, tertiary temporals; IL, infralabials; M, mental; PM, postmental; CS, chin shields; SB, sublabials).

diameter, shape oval with short, broad, and obtuse lobules. Mental wider than long; postmental wider than long, contacting first infralabial only; infralabials five; three pairs of enlarged chin shields; first pair contacting each other; second and third pairs separated medially by single scale; third pair of chin shields separated from infralabial row by a sublabial row. Body relatively long (trunk length 56.1–63.0% of SVL). Scales cycloid, striae on dorsal, lateral, and ventral scales; longitudinal scale rows at mid-body 24–28; paravertebral scales 46–55, similar in size; ventral scales 53–64; inner preanals overlapped by outer. Limbs pentadactyl; forelimb length 20.0–33.9% of SVL; hind-limb length 29.6–37.3% of SVL; single row of supradigital scales on all digits; subdigital lamellae beneath fourth digit of manus 9–12 and subdigital lamellae beneath fourth digit of pes 15–18; SVL 28.5–43.5 mm; SVL 4.2–5.3 times head length; tail length 31.5–67.0 mm (8 ex.).

Figure 9. Live male coloration of head and body of *Lankascincus fallax* (dark-throated male), Kurunegala District.

Figure 10. Live male coloration of head and body of *Lankascincus fallax* (red- throated male), Kurunegala District.

Color in Life. In general, males are light brown to olive colored. Lateral sides of their body olive to yellowish brown. Dorsolateral stripe indistinct in males (except at the tail base). Females and juveniles differ from males: two black dorsolateral stripes, beginning behind eye, along body, and extending onto tail; between these two lines light brown dorsolateral line present on each side; ventral side dusky brown with series of white spots forming longitudinal lines (Figs. 9–11).

Color in Preservative. Male dorsally dusky brown; ventral side dusky white; head and throat dark. Female light brown and ventral side pale brown; black and brown dorsolateral lines become dark and pale lateral stripes in preservative and discernable (Figs. 13–16).

Distribution. *Lankascincus fallax* is the most widely distributed species of litter skink in Sri Lanka. It is distributed in all the zoogeographic zones of Sri Lanka (lowland wet zone, lowland dry zone, Central Hills, and Knuckles Range). It has also been recorded from submontane forests (but in open areas) around Punduluoya and Kotagala in the Nuwaraeliya District ($\sim$ 1,200 m msl) (Fig. 12). Goonatilake et al. (1999) and Balasubramaniam and Krishnarajah (2004) reported this

Figure 11. Live coloration of female of *Lankascincus fallax,* from Alauwa, not preserved.

species as *Sphenomorphus rufogulus* from Pinnawala (Sabaragamuwa Province) and Arasaddy in Jaffna (Northern Province), respectively.

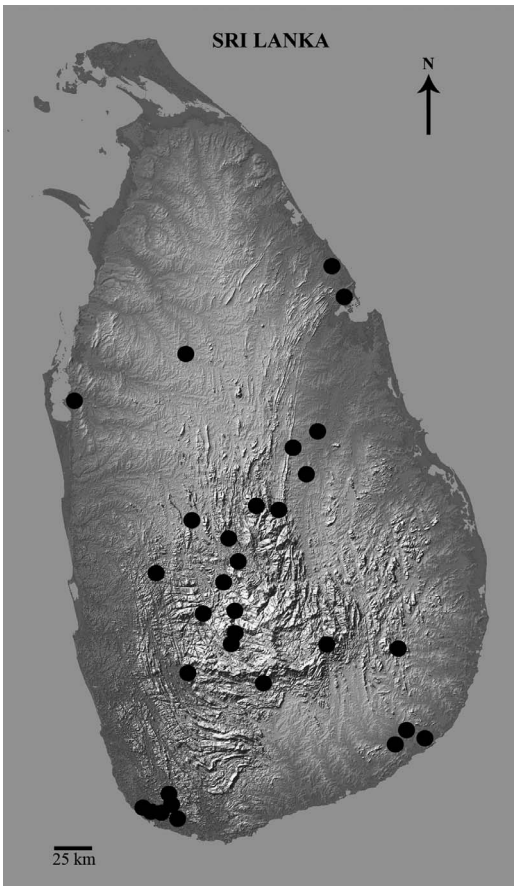

Figure 12. Distribution records of *Lankascincus fallax* in Sri Lanka.

Natural History Notes. This species prefers to live in leaf litter, under large stones, decaying logs, and within debris. A female of 42.5 mm SVL collected on 3 September 2002 laid two eggs (10.0–11.0 mm by 7.0 mm); hatchlings measured 15.3–15.4 mm SVL and 17.8 mm both in tail length. Another female of 42.0 mm SVL found on 30 August 2001 laid two eggs (10.0 mm by 7.0–6.7 mm); only one hatched: 15.7 mm SVL and 20.9 mm in tail length.

Comparisons. Here I compare *L. fallax* with other congeners, listing only opposing suites of character states. *Lankascincus taprobanensis*: single primary temporal and six supralabials; *L. megalops*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. deignani*: single primary temporal and 19–20 subdigital lamellae under fourth digit of pes; *L. dorsicatenatus*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. taylori*: single primary temporal and sexes alike (coloration is the same); *L. gansi*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. sripadensis*: single primary temporal, and sexes alike (coloration is the same); *L. greeri*: subocular pale spot, single primary temporal, and 19–20 subdigital lamellae under fourth digit of pes.

Remarks. Greer (1991) referred ZMB 3762 as the holotype, however, Peters (1860) mentioned a syntype series, hence,

Figure 13. *Lankascincus fallax,* male (holotype of *L. deraniyagalae*), BMNH 1895.7.23.28C. Scale bar = 10.0 mm.

it does not qualify as lectotype designation (Bauer et al., 2003). Data given for hindlimb length and forelimb length as percentage of SVL by Greer (1991) for *L. deraniyagalae* (=*L. fallax*) are actual lengths (A. E. Greer, unpublished data).

Lankascincus megalops new combination

Lygosoma (*Keneuxia*) *megalops* Annandale, 1906: 190; Deraniyagala, 1931: 174.

Sphenomorphus megalops Taylor, 1950: 497; Deraniyagala, 1953: 70.

Lankascincus dorsicatenatus Somaweera and Somaweera, 2009: 225, figs. 261A–E (not of Deraniyagala, 1953).

Lankascincus gansi Somaweera and Somaweera, 2009: 229, figs. 263A–C (not of Greer, 1991).

(Figs. 17–21; Table 2).

Material Examined. WHT 6545, neotype, here designated (ICZN, 1999; Art. 75.3. and 75.3.1., 75.3.2., 75.3.2.3), (adult male), 45.5 mm SVL Pitawala, near Kitulgala (Sabaragamuwa Province), 06°59′N, 80°27′E, 800

Figure 14. *Lankascincus fallax,* male (paratype of *L. deraniyagalae*), BMNH 1895.7.23.28E. Scale bar = 10.0 mm.

m. WHT 6528, WHT 6530, WHT 6532, WHT 6533, WHT 6535, WHT 6536, WHT 6538, WHT 6539, WHT 6543, WHT 6544, WHT 6546, WHT 6585, Hantana, near Peradeniya, Kandy District (Central Province), 07°14′30″N, 80°37′00″E, 760 m; WHT 6547, Kitulgala, (Sabaragamuwa Province), 06°59′N, 80°23′E, 600 m.

Diagnosis. This species is distinguished from all other species of *Lankascincus* by the following combination of characters: prefrontals in contact with each other; subequal supraoculars; fourth supraocular almost entirely in contact with frontoparietal; second supraocular narrow; frontoparietals two; frontoparietal subequal to frontal; supraciliaries 9–11; primary temporals two, in contact; secondary temporals two, separated; supralabials seven; last supralabial smaller than the preceding supralabial; postsupralabials two; paravertebral scales 47–50; ventral scales 48–57; transverse scale rows across mid-body 25–29; subdigital lamellae under fourth digit of pes 15–18; adpressed limbs overlapping; general body color olive brown; ventral side yellowish; male lacks dorsolateral stripe; some males with white spots on temporal area; females with a pair of distinct black longitudinal stripes on dorsum and a light brown, one-and-a-half-scale-width to two-scale-width dorsolateral line.

Redescription (Figs. 17–20; Table 2). A medium-sized skink (maximum SVL, 48.0 mm) with relatively long limbs (limbs overlapping when adpressed). Head moderately long (head length 21.6–24.6% of SVL). Snout rounded in both lateral and dorsal aspects; rostral broader than long, slightly visible dorsally; supranasals absent; frontonasal wider than long; prefrontals broadly in contact with each other ($n = 9$) (Fig. 20) or narrowly in contact with each other ($n = 2$); frontal subtriangular; supraoculars four, only first and second in contact with frontal; frontoparietals two, in contact with second, third, and fourth supraoculars; interparietal present; parietal eyespot present in interparietal; parietals in contact posterior to interparietal; nuchals undiffer-

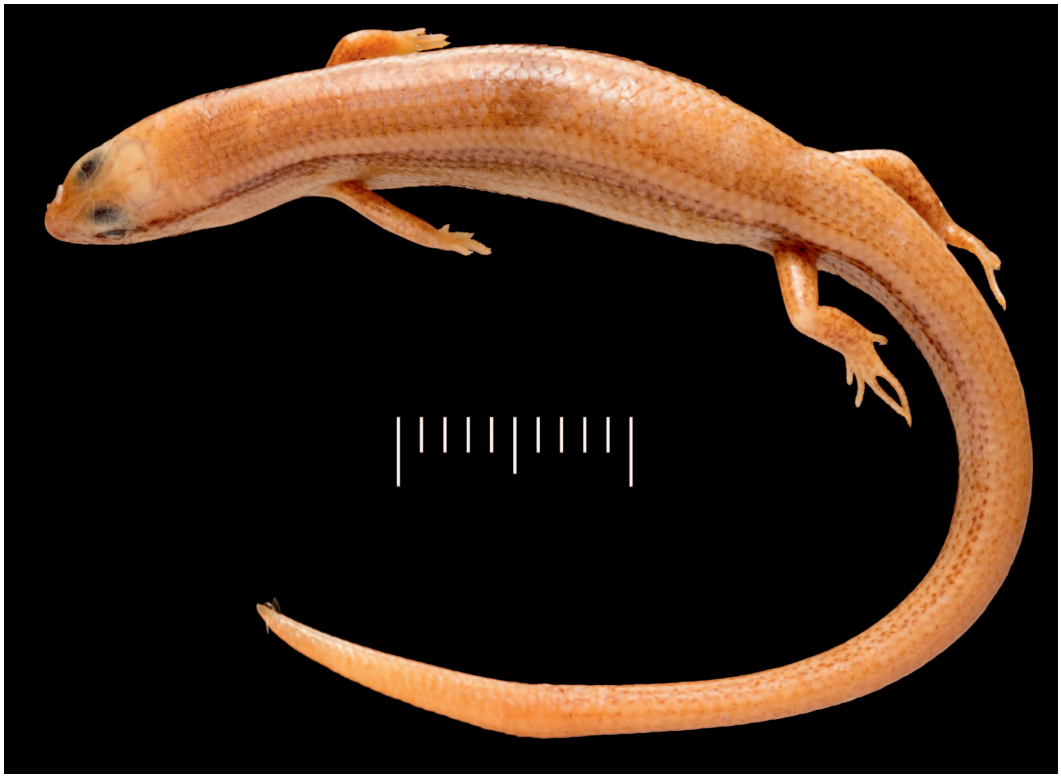

Figure 15. *Lankascincus fallax,* female (paratype of *L. deraniyagalae*), BMNH 1895.7.23.28D. Scale bar = 10.0 mm.

entiated. Nasal larger than nostril; postnasals absent; loreals two, the posterior one larger than the anterior one. Preoculars two; supraciliaries 9–11, in a continuous row, first contacting prefrontal and first supraocular; last supraciliary projecting onto supraocular shelf; pretemporals two, both in contact with parietal; suboculars in a complete row, the last one in contact with lower pretemporal; lower eyelid moveable,

Figure 16. *Lankascincus fallax,* female (paratype of *L. deraniyagalae*), SMF 15460.

Figure 17. Dorsolateral view of *Lankascincus megalops* new combination, WHT 6545, neotype male, from Kitulgala.

scaly; primary temporal two, in contact (lower overlapped upper); secondary temporals two, separated by upper primary temporal and lower tertiary temporal; upper secondary temporal large; lower pretemporal overlapping parietal (dorsally), upper secondary temporal (posteriorly) and upper primary temporal (ventrally); upper primary temporal overlapping secondary temporals (dorsally and ventrally) and lower tertiary temporal (posteriorly); supralabials seven, fifth in subocular position; postsupralabials two. External ear opening 21.7–37.5% of eye diameter, circular, without lobules. Mental and postmental wider than long; postmental contacting first infralabial only; infralabials five; three pairs of enlarged chin shields, first pair in contact medially; second and third pairs of chin shields separated by a single scale; third pair of chin shields separated from infralabial row by a sublabial row. Body moderately long (trunk length 54.1–59.4% of SVL). Scales cycloid, striae on dorsal, lateral, and ventral scales; longitudinal scale rows at mid-body 25–29; paravertebrals 47–50, equal in size; ventral scales 48–57; inner preanals overlapped by outer. Both pairs of limbs pentadactyl; forelimb length 23.5–27.0% of SVL; hindlimb length 34.9–41.2% of SVL; subdigital lamellae under fourth digit of manus 10–12 and subdigital lamellae under fourth digit of pes 15–18; two rows of supradigital scales; SVL 34.0–48.0 mm; SVL 4.1–4.6 times head length; tail length 53.5–73.0 mm (four examples).

Color in Life. Light brown to olive brown ground color with a series of white spots on

Figure 18. Dorsolateral view of *Lankascincus megalops* new combination, female, Kitulgala.

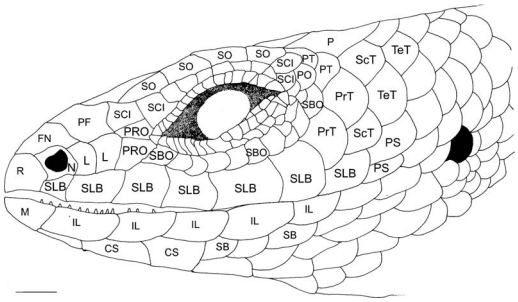

Figure 19. Lateral view of head of neotype of *Lankascincus megalops* new combination, WHT 6545(R, rostral; FN, frontonasal; P, parietal; L, loreals; SLB, supralabials; PS, postsupralabials; SCI, supraciliaries; SO, supraoculars; PRO, preoculars; SBO, suboculars; PO, Postocular; PT, pretemporals; PrT, primary temporals; ScT, secondary temporals; TeT, tertiary temporals; IL, infralabials; M, mental; CS, chin shields; SB, sublabials). Scale bar = 1.0 mm.

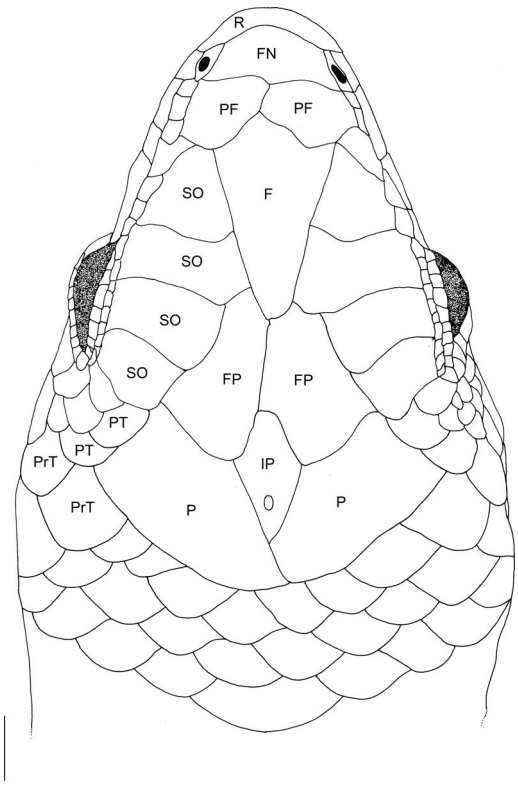

Figure 20. Dorsal view of head of neotype of *Lankascincus megalops* new combination, WHT 6545 (R, rostral; FN, frontonasal; PF, prefrontals; F, frontal; FP, frontoparietals; IP, interparietal; P, parietals; SO, supraoculars; PT, pretemporals; PrT, primary temporals). Scale bar = 1.0 mm.

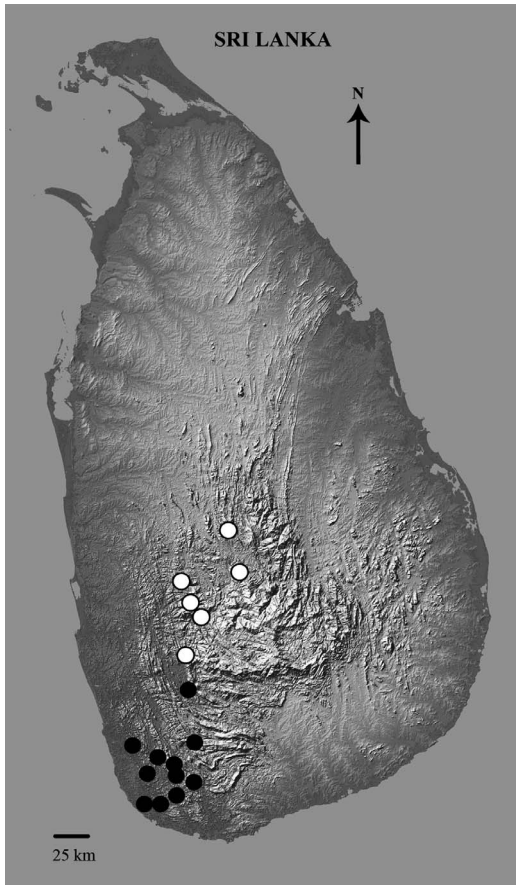

Figure 21. Distribution records of *Lankascincus megalops* new combination (open circles) and *L. dorsicatenatus* (closed circles).

lateral scale rows in neck region forming bands; head red in males; some males with black head, but no white spots; lateral and ventral sides yellow. Females with a light brown, one-and-a-half-scale-width to two-scale-width dorsolateral stripe on each side; in between these light brown dorsolateral lines two narrow dark brown stripes on dorsum; tail red (Figs. 17, 18).

Color in Preservative. In general, body color of male olive brown; lateral and ventral sides dusky white. Throat and temporal regions with dark markings; some scales on temporal area with pale spots

Table 2. Meristic and morphometric (in mm) data of *Lankascincus megalops* new combination (tail length measured from four examples), *L. deignani* (some data of holotype adopted from Taylor [1950]), and *L. dorsicatenatus* (tail length measured from three examples).

	Lankascincus megalops New Combination ($n = 13$)			*L. deignani* ($n = 2$)	*L. dorsicatenatus* ($n = 12$)		
	Range	Mean	SD	USNM 120326, WHT 6757	Range	Mean	SD
Mid-body scales	25–29	26.7	1.2	28, 28	26–28	26.7	0.7
Ventral scales	48–57	53.5	2.6	57, 55	49–57	53.4	2.0
Paravertebral scales	47–50	47.9	1.0	48, 43	40–46	43.5	2.2
Supraciliaries	9–11	9.8	0.6	9, 10	9–11	9.8	0.6
Subdigital lamellae—fourth digit of manus	10–12	10.9	0.7	9, 12	10–13	11.1	0.9
Subdigital lamellae—fourth digit of pes	15–18	16.8	0.9	19-20, 19	15–19	16.6	1.3
Snout–vent length (SVL)	34.0–48.0	41.4	4.1	55.0, 58.0	36.0–45.0	40.4	2.8
Tail length	53.5–73.0	65.6	8.8	broken, 10.0 (broken)	53.0–66.0	60.3	6.7
Trunk length	19.5–28.5	23.3	2.8	28.0, 33.5	19.0–25.5	22.4	1.9
Snout-to-axilla length	13.0–19.5	16.0	1.6	20.0, 21.7	14.5–17.0	15.3	0.7
Head length	8.0–10.8	9.4	0.9	12.0, 13.0	8.2–10.5	9.3	0.7
Forelimb length	9.0–12.0	10.6	1.1	12.0, 15.0	9.5–12.0	10.6	0.8
Hind-limb length	14.0–18.0	16.0	1.4	16.0, 20.0	14.0–18.5	15.8	1.4
Eye diameter	2.3–3.6	2.9	0.4	3.6, 3.9	2.5–3.6	3.1	0.3
Ear opening size	0.5–1.0	0.8	0.1	0.9, 1.2	0.6–1.0	0.8	0.1
Head length/SVL%	21.6–24.6	22.9	0.9	21.8, 22.4	20.9–25.0	22.9	1.1
Trunk length/SVL%	54.1–59.4	56.3	1.7	50.9, 57.8	52.6–58.0	55.4	1.9
Forelimb length/SVL%	23.5–27.0	25.7	1.1	21.8, 25.9	24.1–29.3	26.2	1.5
Hind-limb length/SVL%	34.9–41.2	38.8	1.7	29.1, 34.5	35.4–42.1	39.2	2.2
Eye diameter/head length%	27.6–34.6	30.7	2.3	30.0, 30.0	29.4–38.1	34.0	2.3
Ear opening size/eye diameter%	21.7–37.5	28.2	4.1	25.0, 30.8	18.8–40.0	26.9	5.7

forming narrow bands that continue to axilla. Each dorsal scale with a dark spot forming indistinct longitudinal stripes. Limbs and tail with dark markings. Female reddish-brown to light brown. Two distinct dark longitudinal stripes on dorsum (in some specimens those lines confluent). Lateral sides of body dark. One-and-a-half-scale-width to two-scale-width pale dorsolateral line present. Ventrolateral and ventral sides dusky white; limbs with pale spots; tail light brown.

Details of Neotype. The neotype has the following mensural and meristic features: male, SVL 45.5 mm; supraciliaries 9 and 10; longitudinal scale rows at mid-body 26; paravertebral scales 47; ventral scales 53; regenerated tail 71.7 mm; forelimb length 26.4% of SVL and hind-limb length 39.6% of SVL; subdigital lamellae under fourth digits of manus 11 and 12; and subdigital lamellae under fourth digits of pes 17 and 18.

Distribution. This species has been observed at Kitulgala, Batadombalena, Watura (Sabaragamuwa Province), Hantane Mountain, Peradeniya, Matale, and Ambagamuwa (Central Province) (Fig. 21).

Natural History Notes. Specimens were observed in leaf litter and under large stones often close to streams within rain forests. A female 43.0 mm in SVL (WHT

6585) collected on 15 November 2005 contained a single large follicle (10.3 by 4.5 mm) in the right ovary and WHT 6533 36.0 mm in SVL lacked the left oviduct, suggesting a brood size of one. This lizard is syntopic with *L. gansi* and *L. taylori*.

Comparisons. Here I compare *L. megalops* with other congeners, listing only opposing suites of character states. *Lankascincus taprobanensis*: single primary temporal and six supralabials; *L. fallax*: secondary temporals in contact with each other and last supralabial subequal to the preceding supralabial; *L. deignani*: single primary temporal, secondary temporals in contact, and 19–20 subdigital lamellae under fourth digit of pes; *L. dorsicatenatus*: 40–46 paravertebrals, supraoculars not subequal and catenated dorsal color pattern in females; *L. taylori*: single primary temporal, secondary temporals in contact, and last supralabial subequal to the preceding supralabial; *L. gansi*: single supradigital scale row, adpressed limbs non-overlapping, and 11–13 subdigital lamellae under fourth digit of pes; *L. sripadensis*: single primary temporal, secondary temporals in contact, and last supralabial subequal to the preceding supralabial; *L. greeri*: subocular pale spot, single primary temporal, secondary temporals in contact, and last supralabial subequal to the preceding supralabial.

Remarks. Lankascincus megalops new combination is closely related to *L. dorsicatenatus*; however, it differs from *L. dorsicatenatus* by having 47–50 (vs. 40–46) paravertebral scales, supraoculars subequal (vs. second supraocular larger than others), fourth supraocular almost entirely (vs. slightly) in contact with frontoparietal, second supraocular narrow (vs. broad), frontoparietal subequal to frontal (vs. smaller than frontal), and having adpressed limbs overlapping (vs. not overlapping). Moreover, females of *L. megalops* new combination differ from females of *L. dorsicatenatus* by having two dark-brown longitudinal lines on the dorsum (vs. catenated mid-dorsal coloration) and one-and-a-half scale-width to two scale-width (vs. half a scale-width) dorsolateral line.

Lankascincus deignani (Taylor)

Sphenomorphus deignani Taylor, 1950: 497

Lygosoma (*Sphenomorphus*) *dussumieri* Deraniyagala, 1931: 169 (not of Duméril and Bibron, 1839)

Lankascincus deignani Greer, 1991: 60 (part)

(Figs. 22–28; Table 2)

Material Examined. USNM 120326 (holotype), Mount Ganoruwa (Gangarowa?), Peradeniya, Kandy District, Ceylon, collected by Herbert G. Deignan, 1944; WHT 6757, Gannoruwa Forest Reserve, near Peradeniya, Kandy District, 07°17′10″N, 80°35′30″E, 700 m.

Diagnosis. Distinguished from all other *Lankascincus* by the following combination of characters: prefrontals in contact; prefrontal wider than long; frontonasal as large as prefrontals together; frontoparietals two; supraciliaries 9–10; primary temporal one; secondary temporals two, in contact; supralabials seven; last supralabial subequal to the preceding supralabial; postsupralabials two; paravertebrals 43–48; ventral scales 55–57; transverse scale rows across midbody 28; subdigital lamellae under fourth digit of pes 19–20; maximum SVL 58.0 mm; body color reddish brown; ventral side yellowish brown; lacking a dorsolateral stripe in male; lacking subocular spot; forelimb length 21.8–25.9% of SVL; and hind-limb length 29.1–34.5% of SVL.

Redescription (Figs. 22–27; Table 2). A medium-sized skink (maximum SVL 58.0 mm) with relatively long limbs (limbs overlapping when adpressed). Head relatively short (head length 21.8–22.4% of SVL). Snout rounded in lateral and dorsal aspects; rostral broader than long, slightly visible dorsally; supranasals absent; fronto-

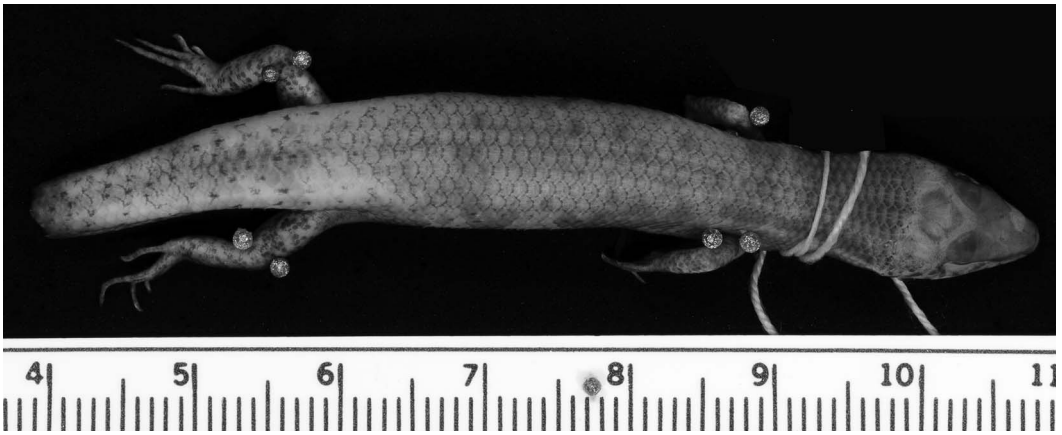

Figure 22. Dorsal view of holotype of *Lankascincus deignani*, USNM 120326.

nasal wider than long; prefrontals in contact; frontal subtriangular; supraoculars four, only first and second in contact with frontal; frontoparietals two, contacting second, third, and fourth supraoculars; interparietal present; parietal eyespot present in interparietal; parietals in contact posterior to interparietal; nuchals undifferentiated. Nasal larger than nostril; postnasals absent; loreals two, the posterior one larger than the anterior. Preoculars two; supraciliaries 9–10, in a continuous row, the first contacting prefrontal and first supraocular; last supraciliary projecting onto supraocular shelf; pretemporals two, both in contact with parietal; suboculars in a complete row, the last one in contact with lower pretemporal; lower eyelid moveable, scaly; primary temporal one; secondary temporals two, upper elongate, overlapped by lower pretemporal and parietal anteriorly and dorsally, and by primary temporal ventrally; upper secondary temporal overlapping lower secondary temporal ventrally; supralabials seven, fifth in subocular position; last supralabial subequal to the preceding supralabial; postsupralabials two. External ear opening 25.0–30.8% of eye diameter, suboval with short, broad, and pointed lobules. Mental

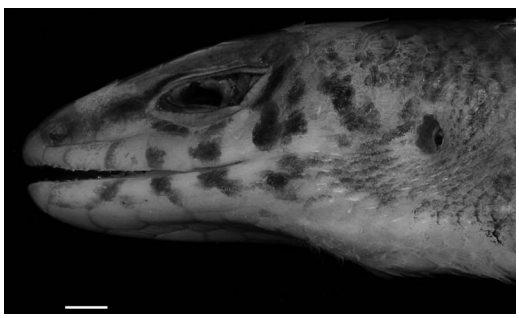

Figure 23. Lateral view of head of holotype (USNM 120326) of *Lankascincus deignani*. Scale bar = 1.0 mm.

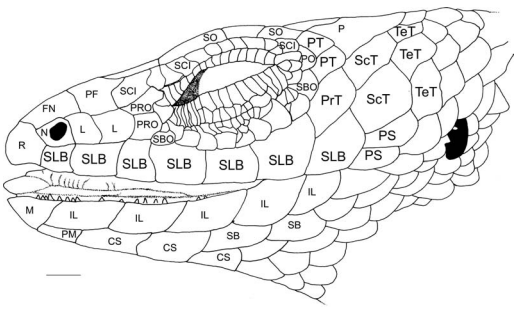

Figure 24. Lateral view of head of *Lankascincus deignani,* WHT 6757 (R, rostral; FN, frontonasal; PF, prefrontals; P, parietal; N, nasal; L, loreals; SLB, supralabials; PS, postsupralabial; SCI, supraciliaries; SO, supraoculars; PRO, preoculars; SBO, suboculars; PO, postocular; PT, pretemporals; PrT, primary temporal; ScT, secondary temporals; TeT, tertiary temporals; IL, infralabials; M, mental; PM, postmental; CS, chin shields; SB, sublabials). Scale bar = 1.0 mm.

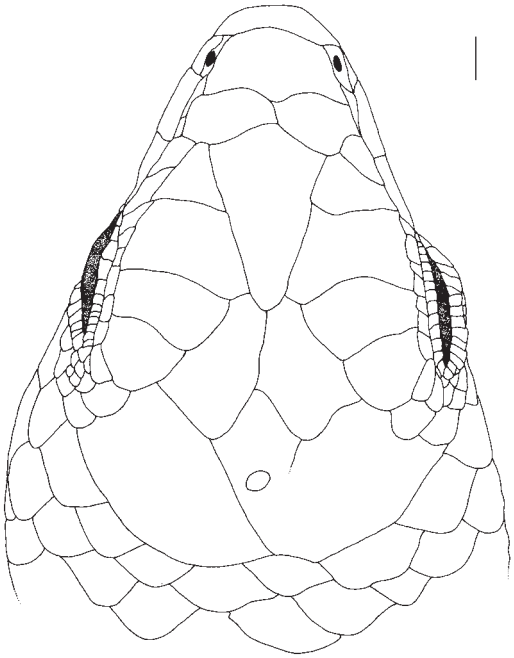

Figure 25. Dorsal view of head of *Lankascincus deignani,* WHT 6757. Scale bar = 1.0 mm.

and postmental wider than long, postmental contacting first infralabial only; infralabials five; three pairs of enlarged chin shields, first pair in contact with each other, second and third pairs separated by a single scale; third pair of chin shields separated from infralabial row by a sub-

Figure 27. Lateral view of head of *Lankascincus deignani,* WHT 6757, in life.

labial row. Body moderately long (trunk length 50.9–57.8% of SVL). Scales cycloid, striae on dorsal, lateral, and ventral scales; longitudinal scale rows at mid-body 28; paravertebrals 43–48, equal in size; ventral scales 55–57; inner preanals overlapped by outer. Both pairs of limbs pentadactyl; forelimb length 21.8–25.9% of SVL and hind-limb length 29.1–34.5% of SVL; subdigital lamellae under fourth digit of manus 9–12 and subdigital lamellae under fourth digit of pes 19–20; two rows of supradigital scales; SVL 58.0 mm; SVL 4.5–4.6 times head length; regenerated tail broken (10.0 mm) in WHT 6757.

Color in Life. Reddish-brown ground color with a series of white and black spots on lateral scales on neck and body; these spots distinct on flanks; ventral side of the

Figure 26. Dorsolateral view of *Lankascincus deignani,* WHT 6757, in life.

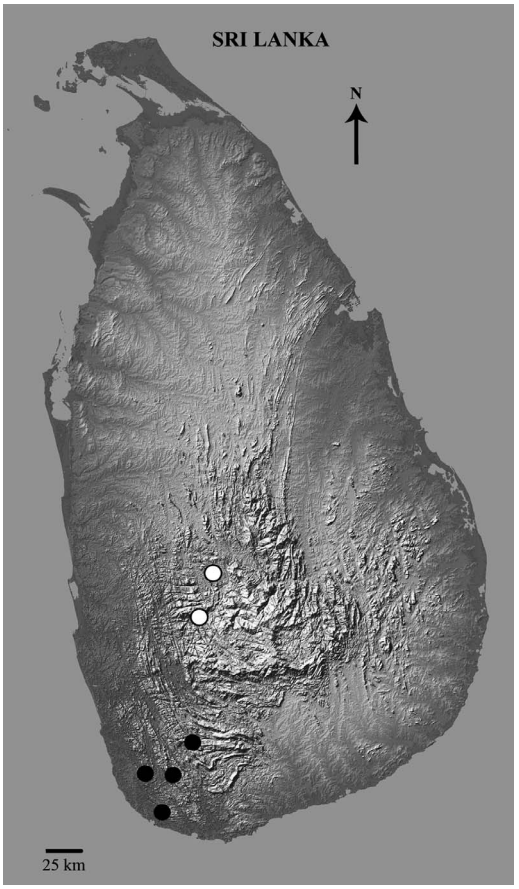

Figure 28. Distribution records of *Lankascincus deignani* (open cicles) and *L. greeri* (closed circles).

head and body orange-colored; limbs dark brown (Fig. 26, 27).

Color in Preservative. Body color generally dark brown; ventrolateral and ventral sides pale brown. Dark spots on each dorsal scale form indistinct longitudinal stripes; lateral sides of the body with dark spots, each with well-defined preceding pale spots. Limbs mixed with black and pale spots; labials with distinct black markings (Fig. 22, 23).

Distribution. This species is known only from Gannoruwa forest in the Kandy District, Sri Lanka and probably in the Ambagamuwa area in the Nuwaraeliya District (see Ukuwela and Nayana Pradeep Kumara, 2004; plate 3, fig.1) (Fig. 28).

Natural History Notes. The recent specimen was observed within moist leaf litter under a fallen epiphyte mass (*Drynaria* sp.) in a well-shaded area. A rare species of *Lankascincus* and hitherto known from two specimens (the holotype and WHT 6757). Nothing is known of its reproduction. *Lankascincus deignani* is sympatric with *L. taylori, L. gansi, Eutropis austini* Batuwita, and *Nessia monodactyla* (Gray).

Comparisons. Here I compare *L. deignani* with other congeners, listing only opposing suites of character states. *Lankascincus taprobanensis*: prefrontals widely separated and six supralabials; *L. fallax*: two primary temporals and 15–18 subdigital lamellae under fourth digit of pes; *L. megalops*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. dorsicatenatus*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. taylori*: single supradigital scale row, adpressed limbs non overlapping, and 11–15 subdigital lamellae under fourth digit of pes; *L. gansi*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. sripadensis*: 51–55 paravertebral scales, dark-brown to black overall body coloration; and *L. greeri*: adpressed limbs greatly overlapping and subocular pale spot.

Remarks. *Lankascincus deignani* may be the most threatened skink in Sri Lanka because so far only two confirmed specimens have been reported. This conservation status has long been overlooked because of the misidentification of specimens of *Lankascincus* from Nuwaraeliya as this species, together with a lack of recent studies.

Lankascincus dorsicatenatus (Deraniyagala)

Sphenomorphus dorsicatenatus Deraniyagala, 1953: 53.

Figure 29. Dorsolateral view of paratype of *Lankascincus dorsicatenatus*, NMSL uncatalogued.

Lankascincus dorsicatenatus Batuwita and Pethiyagoda, 2007: 80; Somaweera and Somaweera, 2009: 224 (Figs. 21, 29–35; Table 2)

Material Examined. NMSL uncatalogued male paratype, 'Rammalkada' (Sabaragamuwa Province); BMNH 1895.7.23.28B (female paratype, most probably from Rammalkada, see *Remarks*), Sri Lanka; FMNH 189025, Ratnapura (paratype of *L. gansi*); WHT 6580, WHT 6598, WHT 6600, Beraliya Forest Reserve near Elpitiya (Southern Province), 06°15′N, 80°12′E, 80 m; WHT 6581, WHT 6591, WHT 6595, WHT 6599, Nawinna, near Galle (Southern Province), 06°04′N, 80°12′E, ~5 m; WHT 6583, Dediyagala Forest Reserve, near Akuressa (Southern Province), 06°10′N, 80°26′E, 150 m; WHT 6590, WHT 6604, Kombala-Kottawa Forest Reserve, Kottawa near Galle (Southern Province), 06°06′N, 80°20′E, 60 m; WHT 6656, Kanneliya Forest Reserve, Galle (Southern Province), 06°15′N, 80°20′E, 150 m.

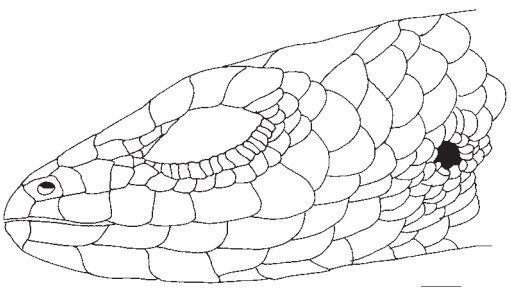

Figure 30. Lateral view of head of *Lankascincus dorsicatenatus*, NMSL uncatalogued paratype. Scale bar = 1.0 mm.

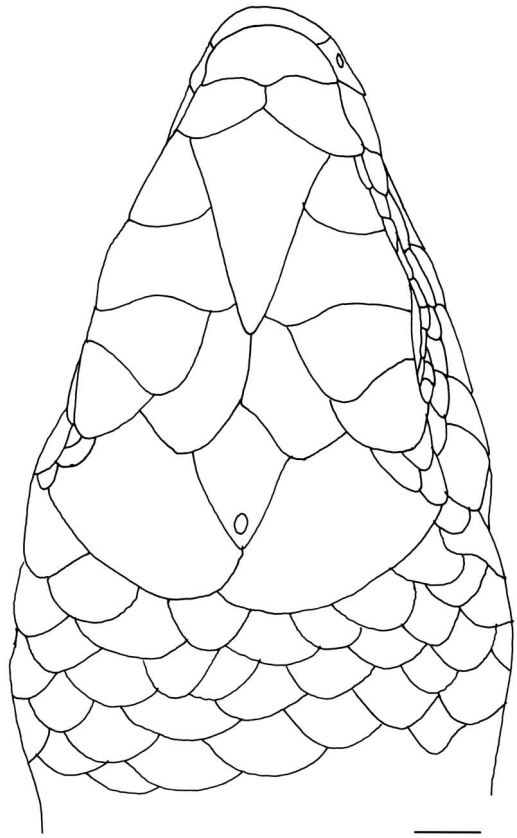

Figure 31. Dorsal view of head of *Lankascincus dorsicatenatus*, NMSL uncatalogued paratype. Scale bar = 1.0 mm.

Diagnosis. *Lankascincus dorsicatenatus* is distinguished from all other species of *Lankascincus* by the following combination of characters: prefrontals in contact; second supraocular larger than others; second supraocular broad; fourth supraocular slightly contacting with frontoparietal; frontoparietal smaller than frontal; frontoparietals two; supraciliaries 9–11; primary temporals two; secondary temporals two, separated; supralabials seven; last supra-

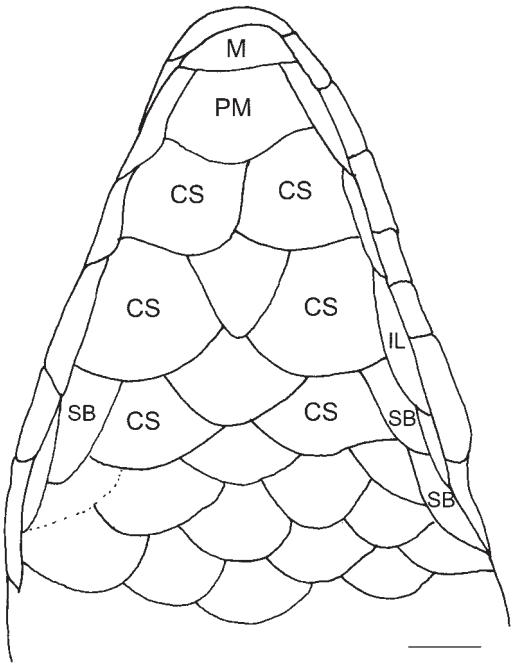

Figure 32. Ventral view of head of *Lankascincus dorsicatenatus,* NMSL uncatalogued paratype (IL, infralabial; M, mental; PM, postmental; CS, chin shields; SB, sublabials). Scale bar = 1.0 mm.

labial smaller than the preceding supralabial; postsupralabials two; paravertebrals 40–46, equal in size; ventral scales 49–57; transverse scale rows across mid-body 26–28; two rows of supradigital scales on digits; subdigital lamellae under fourth digit of manus 10–13; subdigital lamellae under fourth digit of pes 15–19; maximum SVL 45.0 mm; adpressed limbs non-overlapping; general body color of male olive brown, ventral side yellowish brown; males lack a dorsolateral stripe; females with a one-scale-wide light-brown dorsolateral line and a catenated mid-dorsal coloration pattern.

Redescription (Figs. 29-35; Table 2). A medium-sized skink (maximum SVL 45.0 mm) with relatively short limbs. Head relatively short (head length 20.9–25.0% of SVL). Snout obtuse in lateral and dorsal aspects; rostral broader than long, slightly visible dorsally; supranasals absent; frontonasal wider than long; prefrontals broadly in contact ($n = 10$) or narrowly in contact with each other ($n = 2$); frontal subtriangular; supraoculars four, only first and second contacting frontal; frontoparietals two, contacting second, third, and fourth supraoculars; interparietal present; parietal eyespot present in interparietal; parietals in contact posterior to interparietal; nuchals undifferentiated. Nasal larger than nostril; postnasals absent; loreals two, posterior one larger than anterior one; preoculars two; supraciliaries 9–11, in a continuous row; first supraciliary contacting prefrontal and first supraocular; last supraciliary projecting onto supraocular shelf; pretemporals two, both in contact with parietal; suboculars in a complete row, the last one in contact with lower pretemporal; lower eyelid moveable, scaly; primary temporals two; secondary temporals two, separated by upper primary temporal and lower tertiary temporal; upper secondary temporal overlapped by lower pretemporal (anteriorly) and parietal (dorsally); upper primary temporal overlapping secondary temporals (dorsally and ventrally); supralabials seven, fifth in subocular position; last supralabial smaller than the preceding supralabial; postsupralabials two. External ear opening 18.8–40.0% of eye diameter, suboval with short, broad, and pointed lobules. Mental and postmental wider than long; postmental contacting first infralabial only; infralabials five; three pairs of enlarged chin shields; first pair in contact with each other; second and third pairs of chin shields separated medially by a single scale; third pair of chin shields separated from infralabial row by a sublabial row. Body relatively long (trunk length 52.6–58.0% of SVL). Scales cycloid, striae on dorsal, lateral, and ventral scales; longitudinal scale rows at midbody 26–28; paravertebrals 40–46, equal in size; ventral scales 49–57; inner preanals overlapped by outer. Both pairs of limbs pentadactyl; forelimb length 24.1–29.3% of SVL; hind-limb length 35.4–42.1% of SVL; two rows of supradigital

Figure 33. Dorsal and ventral views of *Lankascincus dorsicatenatus,* paratype, BMNH 1895.7.23.28B. Scale bar = 10.0 mm.

scales; subdigital lamellae under fourth digit of manus 10–13; subdigital lamellae under fourth digit of pes 15–19; SVL 36.0–45.0 mm; SVL 3.9–4.3 times head length; tail length 53.0–66.0 mm (3 ex.).

Color in Life. General body color light brown, with a series of white spots on lateral scale rows on the neck forming narrow bands laterally; head red in males; some males lacking white spots and with dark head coloration; lateral and ventral sides of body yellowish brown. Females with a light-brown half-scale-wide dorsolateral line from last supraocular, along body and continuing to one-third of tail length; in between, two dorsolateral lines on the body in a catenated pattern; tail red (Figs. 34, 35).

Color in Preservative. Body of male dark brown to light brown; body pale on lateral and ventral sides. Throat with dark markings; some males with a pale crescentic marking on subocular area, temporal area

Figure 34. Dorsolateral view of *Lankascincus dorsicatenatus,* male, in life.

Figure 35. Dorsolateral view of *Lankascincus dorsicatenatus,* female, in life.

black; neck region of some males with pale spots, forming narrow bands that continue onto insertion of the forelimb. Each dorsal scale has a dark spot, forming indistinct longitudinal stripes; distinct dark markings on the base of tail; limbs and tail with black markings. Dorsum of females dark brown; a whitish, half-scale-wide dorsolateral line, which begins behind last supraocular and continues along body and tail; in between pale dorsolateral lines on the body, the catenated pattern; ventrolateral and ventral regions dusky white; tail dark brown (Fig. 29, 33).

Details of Paratype. The uncatalogued NMSL paratype from "05. 8. 52 Rammalkada-from a stream bank" has the following conditions: adult male; SVL 45.0 mm; supraciliaries 10; longitudinal scale rows at mid-body 26; paravertebral scales 46; ventral scales 54; tail broken (61.0 mm); forelimb length 25.6% of SVL; hind-limb length 41.1% of SVL; subdigital lamellae under fourth digit of manus 11, and subdigital lamellae under fourth digit of pes 19.

Distribution. This species has been recorded from rain forests of the southwestern wet zone of Sri Lanka: Sinharaja World Heritage Site (WHS), Kanneliya Forest Reserve, Kombala-Kottawa Forest Reserve, and Beraliya Forest Reserve (Fig. 21).

Natural History Notes. Specimens were observed in leaf litter and under large stones often close to streams within forests; even when found in home gardens, they were always observed close to a stream. Brood size is one. Two gravid females collected on 27 December 2005: one female 39.5 mm SVL laid a single egg (13.0 by 8.0 mm); the hatchling was 18.8 mm SVL and 27.1 mm tail length. The other female was 40.0 mm SVL and laid a single egg (12.0 by 9.0 mm); hatchling: 17.4 mm SVL and 24.8 mm tail length. Another female WHT 6774 (40.0 mm SVL) collected on 27 September 2007 had a 4.1 by 3.1 mm single immature right ovary. *Lankascincus dorsicatenatus* is sympatric with the following lizard species: *L. gansi*, *L. fallax*, *L. greeri*, *E. carinata* (Schneider), *E. greeri* Batuwita, *Nessia gansi* Batuwita and Edirisinghe, and *Otocryptis wiegmanni* Wagler.

Comparisons. Here I compare *L. dorsicatenatus* with other congeners, listing only opposing suites of character states. *Lankascincus taprobanensis*: single primary temporal and six supralabials; *L. fallax*: two in contact secondary temporals and last supralabial subequal to the preceding supralabial;

L. megalops: fourth supraocular almost entirely in contact with frontoparietal; second supraocular narrow, and 47–50 paravertebrals; *L. deignani*: single primary temporal and secondary temporals in contact with each other; *L. taylori*: single primary temporal, secondary temporals in contact and last supralabial subequal to the preceding supralabial; *L. gansi*: black metallic to rusty-brown living coloration, single row of supradigital scales, and 11–13 subdigital lamellae under fourth digit of pes; *L. sripadensis*: single primary temporal, secondary temporals in contact, and last supralabial subequal to the preceding supralabial; *L. greeri*: subocular pale spot, single primary temporal, secondary temporals in contact, and last supralabial subequal to the preceding supralabial.

Remarks. According to Deraniyagala (1953) the holotype was collected from Angamana near Nivitigala (Sabaragamuwa Province) and there were three paratypes, one from Angamana and two from Rammalkada (Sabaragamuwa Province). The holotype and a paratype from Angammana are presumably lost (Greer, 1991; Batuwita and Pethiygoda, 2007; personal observation), but recently Batuwita and Pethiyagoda (2007) rediscovered one paratype ('Old adult' paratype of Deraniyagala, 1953); it is labeled as "05. 8. 52 Rammalkada-from a stream bank." Another type, BMNH 1895.7.23.28.B, was recently discovered (P. Campbell, personal communication, 2017). This type specimen is most probably the paratype from Rammalkada (Deraniyagala, 1953): ~42.0 mm SVL. As stated by Deraniyagala (1953), the young adult holotype's SVL is about 32.5 mm. Hence, the BMNH 1895.7.23.28.B female type material should belong to the Rammalkada paratype.

Lankascincus taylori Greer

Lankascincus taylori Greer, 1991; Somaweera and Somaweera, 2009: 238

Lankascincus deignani Wickramasinghe, Rodrigo, Dayawansa, and Jayantha, 2007: 24 (not of Taylor, 1950); Somaweera and Somaweera, 2009: 221, fig. 259B, D (not of Taylor, 1950)

(Figs. 36–41; Table 3)

Material Examined. BMNH 72.3.23.4A (holotype), "central Ceylon"; USNM 120326 (paratype), Mount Gannoruwa, Peradeniya, Kandy District; FMNH 167018, Medamahanuwa (Central Province); WHT 6587, WHT 6608, WHT 6609, WHT 6665, Gannoruwa Forest Reserve, near Peradeniya, Kandy District, 07°17′10″N, 80°35′30″E, 700 m; WHT 6697, WHT 6703, Peradeniya, Kandy District (Central Province), 07°15′30″N, 80°35′40″E, 450 m; WHT 6614, WHT 6615, WHT 6617, WHT 6621–6628, Madakumbura, near Punduluoya, Nuwaraeliya District (Central Province), 07°00′N, 80°38′E, 1050 m; WHT 6694, WHT 6696, WHT 6698, Penideniya, near Peradeniya, Kandy District (Central Province), 07°15′N, 80°35′E, 450 m; WHT 6695, Loolcondera Estate, near Galaha, Nuwaraeliya District (Central Province), 07°08′N, 80°42′E, ~1500 m; WHT 6699, Tonacombe Estate, Badulla District, (Uva Province), 06°52′N, 81°07′E, 1,320 m; WHT 6700, WHT 6702, WHT 6705, WHT 6708, WHT 6711, Pussellawa, Nuwaraeliya District (Central Province), 07°05′N, 80°30′E, 900 m; WHT 6701, WHT 6709, WHT 6713, WHT 6714, WHT 6716, WHT 6717, Punduluoya, Nuwaraeliya District (Central Province), 07°01′19″N, 80°39′59″E, 1,100 m; WHT 6706, Badulla, Badulla District (Uva Province), 06°59′N, 81°03′E, 660 m.

Diagnosis. Distinguished from all other species of *Lankascincus* by the following combination of characters: prefrontals in contact; frontoparietals two; supraciliaries eight to nine; primary temporal one; secondary temporals two, in contact; supralabials seven; last supralabial subequal to the preceding supralabial; postsupralabials

Figure 36. Dorsal and ventral views of holotype of *Lankascincus taylori*, BMNH 72.3.23.4A. Scale bar = 10.0 mm.

two; paravertebrals 51–60, equal in size; ventral scales 55–64; transverse scale rows across mid-body 22–27; subdigital lamellae under fourth digit of manus 8–11; subdigital lamellae under fourth digit of pes 11–15; maximum SVL 44.0 mm; general body color dark brown; presence of dark-brown dorsolateral stripe.

Redescription (Figs. 36–40; Table 3). A small-sized skink (maximum SVL 44.0 mm) with relatively short limbs. Head relatively short (head length 18.6–23.9% of SVL). Snout rounded in both lateral and dorsal aspects; rostral broader than long, slightly visible dorsally; supranasals absent; frontonasal wider than long; prefrontals broadly in contact ($n = 21$) or narrowly in contact with each other ($n = 13$); frontal subtriangular; supraoculars four, first and second contacting frontal; frontoparietals two, contacting second, third, and fourth supraoculars; interparietal present; parietal eyespot present in interparietal; parietals in contact posterior to interparietal; nuchals undifferentiated. Nasal larger than nostril; postnasals absent; loreals two; posterior one larger than the anterior; preoculars two; supraciliaries eight to nine, in a continuous row, first contacting prefrontal and first supraocular; last supraciliary projecting onto supraocular shelf; pretemporals two, both contacting parietal; a complete row of suboculars; last subocular contacting lower pretemporal; lower eyelid moveable, scaly; primary temporal one; secondary temporals two, upper elongate, overlapped by lower pretemporal (anteriorly) and parietal (dorsally); upper secondary temporal overlapping lower sec-

Figure 37. Dorsal view of paratype of *Lankascincus taylori*, FMNH 167018.

ondary temporal ventrally; supralabials seven, fifth in subocular position; last supralabial subequal to the preceding supralabial; postsupralabials two. External ear opening 10.0–35.3% of eye diameter, elliptical in shape, with short, broad, and pointed lobules. Mental wider than long; postmental wider than long, contacting first infralabial only; infralabials five; three pairs of enlarged chin shields; first pair of chin shields in contact with each other; second and third pairs of chin shields separated by a single scale; third pair of chin shields separated from infralabial row by a sublabial row. Body relatively long (trunk length 45.3–63.4% of SVL). Scales cycloid, striae on dorsal, lateral, and ventral scales; longitudinal scale rows at mid-body 22–27; paravertebrals 51–60, equal in size; ventral scales 55–64; inner preanals overlapped by outer. Both pairs of limbs pentadactyl; forelimb length 17.0–23.2% of SVL; hind-limb length 24.7–36.2% of SVL; single row of supradigital scales on all digits; subdigital lamellae under fourth digit of manus 8–11 and subdigital lamellae under fourth digit of pes 11–15; SVL 28.5–44.0 mm; SVL 4.2–5.4 times head length; tail length 41.0–64.3 mm (16 examples).

Figure 38. Lateral view of head of paratype of *Lankascincus taylori*, FMNH 167018. Scale bar = 1.0 mm.

Color in Life. General body color dark brown; a broad black lateral stripe from temporal area to hind limbs; ventrolateral sides dusky white; series of white spots on lateral scale rows on neck and trunk; each scale of dorsum of females with a black spot, aligned-to-form longitudinal stripes; ventral side greenish yellow or dusky white in males. Females lighter than males; ventral side white (Fig. 39).

Figure 39. *Lankascincus taylori* in life, not preserved from Gannoruwa.

Color in Preservative. Body color dark brown; a broad black lateral stripe from the temporal area to hind limbs; ventrolateral sides dusky brown; ventral side dusky white (Fig. 36).

Distribution. This species has a wide distribution range in Sri Lanka: Sinharaja WHS (Greer, 1991), Central Hills, Knuckles Range, and Namunukula and is also recorded from isolated mountains in the dry zone of Sri Lanka: Moneragala, Nilgala (Moneragala District), and Dolukanda (Kurunegala District) (Fig. 41).

Natural History Notes. This species prefers to live in leaf litter and under small stones and decaying logs; it is often found in pairs. Brood size is two. *Lankascincus taylori* is sympatric with the following scincid lizards: *E. carinata*, *E. austini*, *L. gansi*, and *N. monodactyla*.

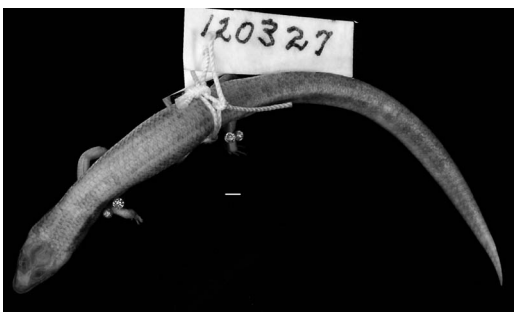

Figure 40. Dorsal view of paratype of *Lankascincus taylori*, USNM 120327. Scale bar = 1.0 mm.

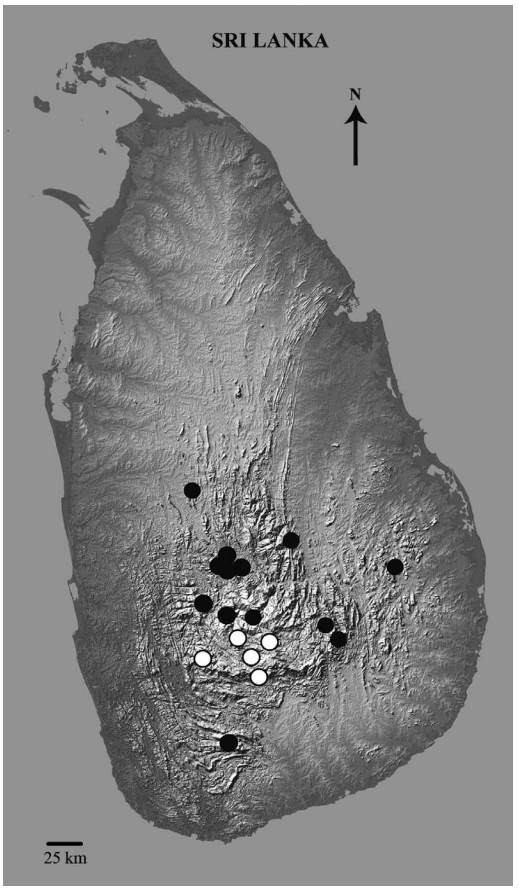

Figure 41. Distribution records of *Lankascincus taylori* (closed circles) and *L. sripadensis* (open circles).

TABLE 3. MERISTIC AND MORPHOMETRIC (IN MM) DATA OF *LANKASCINCUS TAYLORI* AND *L. GANSI* (TAIL LENGTH MEASURED FROM 16 AND 10 EXAMPLES, RESPECTIVELY).

	L. taylori ($n = 34$)			*L. gansi* ($n = 19$)		
	Range	Mean	SD	Range	Mean	SD
Mid-body scales	22–27	25.4	1.2	24–26	24.4	0.8
Ventral scales	55–64	59.5	2.5	42–58	50.8	3.0
Paravertebral scales	51–60	53.8	2.0	41–48	44.3	2.2
Supraciliaries	8–9	8.3	0.5	9–10	9.2	0.4
Subdigital lamellae—fourth digit of manus	8–11	8.9	0.9	6–10	8.5	0.9
Subdigital lamellae—fourth digit of pes	11–15	13.7	1.1	11–13	12.6	0.6
Snout–vent length (SVL)	28.5–44.0	37.5	3.7	28.0–39.8	32.5	2.6
Tail length	41.0–64.3	53.3	6.9	38.0–55.0	43.2	4.7
Trunk length	14.5–26.5	22.0	2.7	15.0–21.0	18.1	1.7
Snout-to-axilla length	10.5–15.5	13.7	1.1	11.0–14.5	12.4	1.0
Head length	6.2–9.0	7.8	0.7	6.5–8.0	7.2	0.4
Forelimb length	6.0–9.5	7.8	0.7	6.5–8.5	7.3	0.7
Hind-limb length	8.0–13.5	11.3	1.1	8.5–13.5	11.0	1.4
Eye diameter	1.2–2.2	1.8	0.2	1.5–2.3	2.0	0.2
Ear opening size	0.2–0.7	0.4	0.1	0.2–0.4	0.3	0.1
Head length/SVL%	18.6–23.9	20.8	1.1	19.1–23.9	22.3	1.1
Trunk length/SVL%	45.3–63.4	58.6	3.2	49.2–61.3	55.7	3.2
Forelimb length/SVL%	17.0–23.2	20.8	1.3	20.0–25.4	22.6	1.6
Hind-limb length/SVL%	24.7–36.2	30.2	2.3	27.3–38.6	33.8	3.2
Eye diameter/head length%	17.9–28.6	23.6	2.8	23.1–32.4	28.0	2.5
Ear opening size/eye diameter%	10.0–35.3	21.6	7.3	10.0–18.2	14.5	2.7

Comparisons. Here I compare *L. taylori* with other congeners, listing only opposing suites of character states. *Lankascincus taprobanensis*: prefrontals widely separated and six supralabials; *L. fallax*: two primary temporals and secondary temporals subequal; *L. megalops*: last supralabial smaller than the preceding supralabial, two primary temporals, and two separated secondary temporals; *L. deignani*: reddish-brown living body coloration, adpressed limbs overlapping, and 19–20 subdigital lamellae under fourth digit of pes; *L. dorsicatenatus*: last supralabial smaller than the preceding supralabial, two primary temporals, and two separated secondary temporals; *L. gansi*: last supralabial smaller than the preceding supralabial, two primary temporals, and two separated secondary temporals; *L. sripadensis*: adpressed limbs overlapping, two rows of supradigital scales, and 16–19 subdigital lamellae under fourth digit of pes; *L. greeri*: subocular pale spot, 19–20 subdigital lamellae under fourth digit of pes.

Remarks. Data given for hind-limb length and forelimb lengths as percentage of SVL by Greer (1991) for *L. taylori* are actual lengths (A. E. Greer, unpublished data).

Lankascincus gansi Greer

Lankascincus gansi Greer, 1991: 62; Somaweera and Somaweera, 2009: 228, 229: figs. 263D, E

Lankascincus deignani Somaweera and Somaweera, 2009: 221, fig. 259A (not of Taylor, 1950)

(Figs. 4, 42–43; Table 3)

Material Examined. CM 67932 (holotype), Udugama, near Deniyaya, Southern Province, Ceylon (Sri Lanka); WHT 6575, WHT 6592, Beraliya Forest Reserve near Elpitiya (Southern Province), 06°15′N, 80°12′E, 80 m; WHT 6576, Rummassala, near Galle (Southern Province), 06°01′N, 80°14′E, ~10 m; WHT 6577, WHT 6578, WHT 6582, Kombala-Kottawa Forest Reserve, Kottawa Galle District (Southern Province), 06°06′N, 80°20′E, 60 m; WHT

Figure 42. Dorsolateral view of *Lankascincus gansi*, male, in life, from Nawinna (Galle).

6586, Dediyagala Forest Reserve, near Akuressa (Southern Province), 06°10′N, 80°26′E, 150 m; WHT 6588, WHT 6597, WHT 6607, Kanneliya Forest Reserve, Galle (Southern Province), 06°15′N, 80°20′E, 150 m; WHT 6593, WHT 6593A, Morningside Forest Reserve in the eastern part of the Sinharaja WHS (Sabaragamuwa Province), 06°25′10″N, 80°36′30″E, 850 m; WHT 6611, Ambagamuwa (Central Province), 07°01′N, 80°29′E, 760 m; WHT 6613, Kitulgala, near Pitawala (Sabaragamuwa Province), 06°59′N, 80°27′E, 340 m; WHT 6657, Nawinna, near Galle (Southern Province), 06°04′N, 80°12′E, ~5 m; WHT 6661, Kombala-Kottawa Forest Reserve, Hiyare, near Galle (Southern Province), 06°04′N, 80°15′E, 60 m; WHT 6710, WHT 6712, WHT 6715, Punduluoya, Nuwaraeliya District (Central Province), 07°01′19″N, 80°39′59″E, 1,100 m.

Figure 43. Dorsolateral view of *Lankascincus gansi*, female, in life, from Nawinna (Galle).

Diagnosis. Distinguished from all other species of *Lankascincus* by the following combination of characters: prefrontals in contact with each other; frontoparietals two; supraciliaries 9–10; primary temporals two; secondary temporals two, separated; supralabials seven; postsupralabials two; paravertebral scales 41–48, equal in size; ventral scales 42–58; transverse scale rows across midbody 24–26; subdigital lamellae under fourth digit of manus 6–10; subdigital lamellae under fourth digit of pes 11–13; maximum SVL 39.8 mm; general body color of male bluish black, of female light brown.

Redescription (Figs. 42, 43; Table 3). A small-sized skink (maximum SVL 39.8 mm) with moderately developed limbs. Head relatively short (head length 19.1–23.9% of SVL). Snout blunt in lateral and dorsal aspects; rostral broader than long, slightly visible dorsally; supranasals absent; frontonasal wider than long; prefrontals contacting each other; frontal subtriangular; supraoculars four, first and second contacting frontal; frontoparietals two, contacting second, third, and fourth supraoculars; interparietal present; parietal eyespot present in interparietal; parietals in contact posterior to interparietal; nuchals undifferentiated. Postnasals absent; nasal larger than nostril; loreals two, posterior one larger than anterior one; preoculars two; supraciliaries 9–10, in a continuous row, first contacting prefrontal and first supraocular; last supraciliary projecting onto supraocular shelf; pretemporals two, both contacting parietal; complete row of suboculars, last contacting lower pretemporal; lower eyelid moveable, scaly; primary temporals two; upper primary temporal overlapped by lower primary temporal (ventrally) and lower pretemporal (dorsally); secondary temporals two, separated by upper primary temporal and lower tertiary temporal; upper secondary temporal large, overlapped by lower pretemporal (anteriorly) and parietal (dorsally); upper secondary temporal overlapping lower tertiary temporal (ventrally); supralabials seven (very rarely eight, $n = 1$); fifth or/and sixth ($n = 1$) in subocular position (see also Greer, 1991; fig. 1B); postsupralabials two. External ear opening 10.0–18.2% of eye diameter, shape circular, without lobules. Mental wider than long; postmental wider than long, contacting first infralabial only; infralabials five; three pairs of enlarged chin shields; first pair in contact; second and third pairs of chin shields separated by a single scale; third pair of chin shields separated from infralabial row by a sublabial row. Body moderately long (trunk length 49.2–61.3% of SVL). Scales cycloid, striae on dorsal, lateral, and ventral scales; longitudinal scale rows at mid-body 24–26; paravertebral scales 41–48, equal in size; ventral scales 42–58; inner preanals overlapped by outer. Both pairs of limbs pentadactyl; forelimb length 20.0–25.4% of SVL; hind-limb length 27.3–38.6% of SVL; single row of supradigital scales on all digits; subdigital lamellae under fourth digit of manus 6–10; subdigital lamellae under fourth digit of pes 11–13; SVL 28.0–39.8 mm; SVL 4.2–5.2 times head length; tail length 38.0–55.0 mm (10 examples).

Color in Life. Males with a black metallic ground color and series of iridescent blue dashes laterally on the neck and trunk; ventral side dusky white; some males light brown and with an orange belly. Female dorsum color light brown, dark brown laterally (Figs. 42, 43).

Color in Preservative. Dorsal color of males dark brown; ventral side dusky; head dark brown; short dorsolateral line on tail; females rusty brown.

Distribution. This species is found in the southwestern wet zone including Central Hills of Sri Lanka, from the coast (Rumaswala) to up to ~1,200 m msl (e.g., Ambagamuwa, Gannoruwa, Kitulgala, and Punduluoya) (Fig. 4).

Natural History Notes. *Lankascincus gansi* has been observed in leaf litter and under stones, and under decaying logs

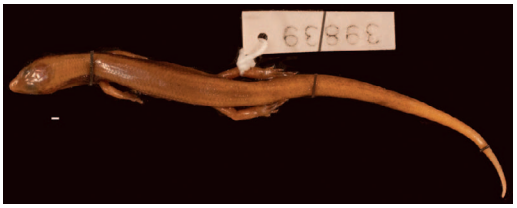

Figure 44. *Lankascincus sripadensis* (paratype of *L. deraniyagalae*), MCZ 39839. Scale bar = 1.0 mm.

within the debris. Two females collected on 3 September 2002: one 30.5 mm SVL and the other 30.0 mm SVL; each specimen contained one large follicle, respectively 8.5 by 2.5 mm and 6.5 by 3.0 mm, in the right ovary, suggesting a brood size of one.

Comparisons. Here I compare *L. gansi* with other congeners, listing only opposing suites of character states. *Lankascincus taprobanensis*: single primary temporal and six supralabials; *L. fallax*: secondary temporals in contact with each other and last supralabial subequal to the preceding supralabial; *L. megalops*: adpressed limbs overlapping, two rows of supradigital scales, and 15–18 subdigital lamellae under fourth digit of pes; *L. deignani*: single primary temporal, secondary temporals in contact, and 19–20 subdigital lamellae under fourth digit of pes; *L. dorsicatenatus*: general body color light brown in male, catenated pattern on dorsum in female, two rows of supradigital scales, and 15–19 subdigital lamellae

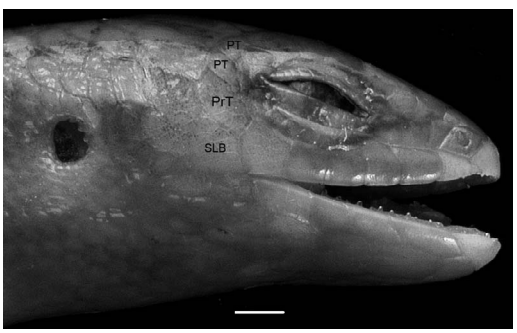

Figure 45. *Lankascincus sripadensis* (lateral view of head of paratype of *L. deraniyagalae*), MCZ 39837 (PT, pretemporal; PrT, primary temporal; SLB, supralabial). Scale bar = 1.0 mm.

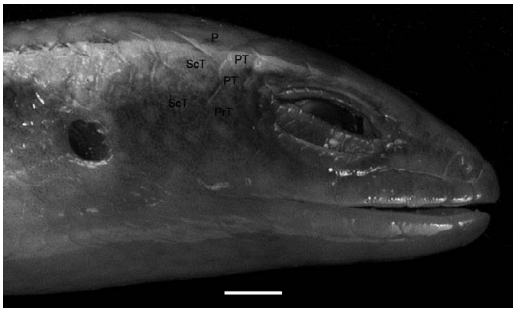

Figure 46. *Lankascincus sripadensis* (lateral view of head of paratype of *L. deraniyagalae*), MCZ 39838 (P, parietal; PT, pretemporal; PrT, primary temporal; ScT, secondary temporals). Scale bar = 1.0 mm.

under fourth digit of pes; *L. taylori*: single primary temporal, secondary temporals in contact, and last supralabial subequal to the preceding supralabial; *L. sripadensis*: single primary temporal, secondary temporals in contact, and last supralabial subequal to the preceding supralabial; *L. greeri*: subocular pale spot, single primary temporal, secondary temporals in contact, and last supralabial subequal to the preceding supralabial.

Lankascincus sripadensis Wickramasinghe, Rodrigo, Dayawansa, and Jayantha

Lankascincus deignani Greer, 1991: 60 (not of Taylor, 1950)

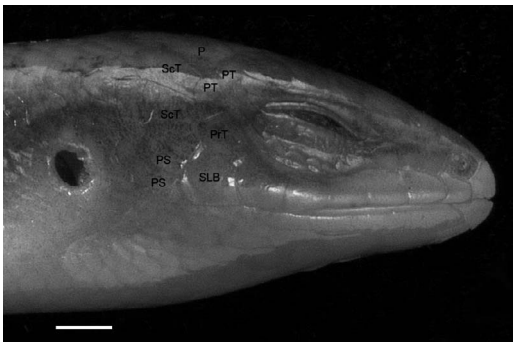

Figure 47. *Lankascincus sripadensis* (lateral view of head of paratype of *L. deraniyagalae*), MCZ 39839 (P, parietal; PT, pretemporal; PrT, primary temporal; ScT, secondary temporals; SLB, supralabial; PS, postsupralabials). Scale bar = 1.0 mm.

Figure 48. *Lankascincus sripadensis* in life, from Agarapatana.

Lankascincus deraniyagalae Greer, 1991: 62 (part)

Lankascincus sripadensis Wickramasinghe, Rodrigo, Dayawansa, and Jayantha, 2007: 11; Somaweera and Somaweera, 2009: 234

Lankascincus deignani Batuwita and Pethiyagoda, 2007: 86 (not of Taylor, 1950)

(Figs. 41, 44–48; Table 4)

Material Examined. NMSL200705001

TABLE 4. MERISTIC AND MORPHOMETRIC (IN MM) DATA OF *LANKASCINCUS SRIPADENSIS* AND *L. GREERI* (TAIL LENGTH MEASURED FROM FOUR AND THREE EXAMPLES, RESPECTIVELY).

	Lankascincus sripadensis ($n = 10$)								
	Holotype and Two Paratypes of *L. sripadensis*						*L. greeri* ($n = 5$)		
	Range	Mean	SD	Range	Mean	SD	Range	Mean	SD
Mid-body scales	26	26.0		26–27	26.3	0.5	26–28	27.1	0.8
Ventral scales	57–61	58.3	2.3	60–65	62.1	2.0	55–59	57.0	1.6
Paravertebral scales	51–53	51.7	1.2	51–55	53.1	1.5	42–45	43.7	1.3
Supraciliaries	8–9	8.3	0.6	8–9	8.6	0.5	10–11	10.7	0.4
Subdigital lamellae—fourth digit of manus	13	13		10–13	11.4	1.1	14–15	14.3	0.4
Subdigital lamellae—fourth digit of pes	17–19	17.7	1.2	16–19	18.1	1.1	19–21	20.0	1.0
Snout–vent length (SVL)	52.0–56.0	54.2	2.0	34.0–54.5	46.6	7.2	41.5–58.5	50.1	6.2
Tail length	71.0–89.0	80.0	12.7	46.5–74.0	60.3	19.4	85.1–86.0	85.6	0.5
Trunk length	31.5–35.0	33.0	1.8	19.0–31.5	26.6	4.5	22.5–32.0	27.3	3.5
Snout-to-axilla length	18.0–21.0	19.5	1.5	13.0–19.5	17.3	2.4	17.5–22.0	19.8	1.6
Head length	11.0–11.5	11.2	0.3	7.3–11.5	10.1	1.5	10.6–13.6	12.2	1.1
Forelimb length	12.0–12.5	12.2	0.3	8.5–13.0	11.4	1.8	12.5–17.0	14.8	1.7
Hind-limb length	17.5–19.5	18.7	1.0	12.0–19.5	16.6	2.4	18.0–23.0	20.5	2.0
Eye diameter	4.2–4.3	4.2	0.1	2.7–4.4	3.9	0.7	3.2–3.6	3.4	0.2
Ear opening size	1.0–1.6	1.3	0.3	0.6–1.2	1.0	0.2	0.8–1.1	1.0	0.1
Head length/SVL%	20.2–21.2	20.6	0.5	20.2–22.8	21.6	1.0	23.2–25.5	24.4	0.9
Trunk length/SVL%	57.8–62.5	60.9	2.7	55.9–58.8	57.1	1.0	54.2–55.8	54.9	0.8
Forelimb length/SVL%	21.4–23.1	22.5	0.9	22.9–28.3	24.6	1.9	29.1–30.1	29.6	0.5
Hind-limb length/SVL%	32.1–36.5	34.5	2.2	32.1–42.4	35.9	3.7	39.3–43.4	41.7	1.5
Eye diameter/head length%	37.4–38.2	37.9	0.5	35.2–42.2	38.2	2.1	34.2–39.0	36.9	2.2
Ear opening size/eye diameter%	23.8–37.2	29.9	6.8	22.2–31.3	25.7	3.8	22.2–33.3	27.8	3.9

(holotype), NMSL200705002, NMSL200705003 (paratypes), Peak Wilderness, Nuwaraeliya District, Central Province, 06°48′N, 80°30′E, 1,825 m; MCZ R39837, MCZ R39838, MCZ R39849 (paratypes of *L. deraniyagalae* Greer), "Dimbulla, Queenwood Estate" (Dimbula), 06°57′N, 80°38′E, 1,220 m; WHT 6568, WHT 6574, WHT 6594, WHT 6636, WHT 6739, Agra Arboretum, near Torrington Estate, Agarapatana, Nuwaraeliya District (Central Province), 06°51′N, 80°41′E, 1,550 m; WHT 6567, Dimbula near Talawakele, Nuwaraeliya District (Central Province), 06°57′N, 80°38′E, 1,220 m; WHT 6569, garden at Nanuoya Railway Station, Nuwaraeliya District (Central Province), 06°56′30″N, 80°44′30″E, 1,623 m; WHT 7503, Peak Wilderness, 06°49′N, 80°30′E, 2,140 m.

Diagnosis. Distinguished from all other *Lankascincus* by the following combination of characters: prefrontals in contact with each other; frontoparietals two; supraciliaries eight to nine; primary temporal one; secondary temporals two, in contact; supralabials seven; last supralabial subequal to the preceding supralabial; postsupralabials two; paravertebrals 51–55; ventral scales 57–65; transverse scale rows across midbody 26–27; subdigital lamellae under fourth digit of pes 16–19; maximum SVL 56.0 mm; dorsum light brown, lateral sides of body with a dark narrow lateral stripe, ventrolateral and ventral sides of head light brown.

Redescription (Figs. 44–48; Table 4). A medium-sized skink (maximum SVL 56.0 mm) with relatively long limbs (limbs overlapping when adpressed). Head relatively short (head length 20.2–22.8% of SVL). Snout blunt both in lateral and dorsal aspects; rostral broader than long, slightly visible dorsally; supranasals absent; frontonasal wider than long; prefrontals broadly in contact with each other ($n = 9$) or narrowly in contact with each other ($n = 1$); frontal subtriangular; supraoculars four, first and second contacting frontal; frontoparietals two, contacting second, third, and fourth supraoculars; interparietal present; parietal eye present in interparietal; parietals in contact posterior to interparietal; nuchals undifferentiated. Nasal larger than nostril; postnasals absent; loreals two, posterior one larger than anterior one; preoculars two; supraciliaries eight or nine, in a continuous row; first supraciliary contacting prefrontal and first supraocular; last supraciliary projecting onto supraocular shelf; pretemporals two, both in contacting parietal; complete row of suboculars, last in contacting lower pretemporal; lower eyelid moveable, scaly; primary temporal one; secondary temporals two, upper elongate, overlapped by lower pretemporal (anteriorly) and parietal (dorsally), and by primary temporal ventrally; upper secondary temporal overlapping lower secondary temporal ventrally; supralabials seven, fifth in subocular position; postsupralabials two. External ear opening 22.2–37.2% of eye diameter, shape circular, with short, broad, and blunt lobules. Mental wider than long; postmental wider than long, contacting first infralabial only; infralabials five; three pairs of enlarged chin shields; first pair in contact with each other; second and third pairs separated by a single scale; third pair of chin shields separated from infralabial row by a sublabial row. Body relatively long (trunk length 55.9–62.5% of SVL). Scales cycloid, striae on dorsal, lateral, and ventral scales; longitudinal scale rows at mid-body 26–27; paravertebral scales 51–55, equal in size; ventral scales 57–65; inner preanals overlapped by outer. Both pairs of limbs pentadactyl; forelimb length 21.4–28.3% of SVL; hind-limb length 32.1–42.4% of SVL; subdigital lamellae under fourth digit of manus 10–13 and subdigital lamellae under fourth digit of pes 16–19; two rows of supradigital scales; SVL 34.0–56.0 mm; SVL 4.4–5.0 times head length; tail length 46.5–89.0 mm (four examples).

Color in Life. General body color light brown. Sides of the body with a narrow dark lateral stripe; ventrolateral and ventral sides of head light brown; series of white spots laterally on head or neck region in some individuals (Fig. 48).

Color in Preservative. General body color dark brown; a distinct black dorsolateral line; ventral side dusky white (Fig. 44).

Distribution. This species is found only in the Central Hills of Sri Lanka (within the Nuwaraeliya District), above 1,200 m msl: Peak Wilderness, Punduluoya, Agarapatana, Nanuoya, Dimbula, Talawakele, Labukele, Bogawanthalawa, and Kotagala (Fig. 41).

Natural History Notes. *Lankascincus sripadensis* was found in open areas in the hill country (grasslands). Some specimens were also observed in leaf litter and under large stones. A female (WHT 6726, 49.1 mm in SVL) contained two large follicles in the left ovary (brood size two). In the present study it was recorded only from Peak Wilderness (the type locality) and extending to Nuwareliya, Punduluoya, Agarapatana, Nanuoya, Dimbula, Talawakele, Labukele, Bogawanthalawa, and Kotagala.

Comparisons. Here I compare *L. sripadensis* with other congeners, listing only opposing suites of character states. *Lankascincus taprobanensis*: prefrontals widely separated and six supralabials; *L. fallax*: two primary temporals and secondary temporals subequal; *L. megalops*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. deignani*: 43–48 paravertebral scales, general body color reddish brown; *L. dorsicatenatus*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. taylori*: adpressed limbs not overlapping, single supradigital scale row and 11–15 subdigital lamellae under fourth digit of pes; *L. gansi*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. greeri*: paravertebral scales 42–45, pale subocular spot and reddish-brown body coloration.

Remarks. All paratype material of *L. deraniyagalae* from "Dimbulla, Queenwood Estate" (Dimbula), 06°57′N, 80°38′E, 1,220 m, belongs to *L. sripadensis*.

Lankascincus greeri Batuwita and Pethiyagoda

Lankascincus greeri Batuwita and Pethiyagoda, 2007: 81; Somaweera and Somaweera, 2009: 230
(Figs. 28, 49; Table 4)

Material Examined. WHT 6524 (holotype), Kombala-Kottawa Forest Reserve near Hiyare, Galle (Southern Province), 06°04′N, 80°15′E, 60 m; (all paratypes), WHT 6525, NMSL RSK uncatalogued, Kombala-Kottawa Forest Reserve near Hiyare, Galle (Southern Province), 06°04′N, 80°15′E, 60 m; WHT 6526, Koskulana in the Sinharaja WHS (Sabaragamuwa Province), 06°25′N, 80°27′E, 460 m; WHT 6527, Beraliya Forest Reserve near Elpitiya (Southern Province), 06°15′N, 80°12′E, 80 m.

Diagnosis. Distinguished from all other *Lankascincus* by the following combination of characters: prefrontals in contact with each other, as long as wide; frontonasal smaller than prefrontals together; frontoparietals two; supraciliaries 10–11; primary temporal one; secondary temporals two, in contact; supralabials seven; last supralabial subequal to the preceding supralabial; postsupralabials two; paravertebral scales 42–45; ventral scales 55–59; transverse scale rows across mid-body 26–28; subdigital lamellae under fourth digit of pes 19–21; maximum SVL 58.5 mm; forelimb length 29.1–30.1% of SVL; hind-limb length 39.3–43.3% of SVL; body color reddish brown; dorsolateral stripe absent; subocular white spot present.

Redescription (Fig. 49; Table 4). A medium-sized skink (maximum SVL 58.5 mm) with relatively long limbs (limbs overlapping when adpressed). Head relative-

Figure 49. Dorsolateral view of *Lankascincus greeri*, male, in life, from Kanneliya Forest Reserve.

ly short (head length 23.2–25.5% of SVL). Snout rounded in lateral and dorsal aspects; rostral slightly visible in dorsal aspect; supranasals absent; frontonasal wider than long; prefrontals in contact with each other; frontal subtriangular; supraoculars four, first and second contacting frontal; frontoparietals two, contacting second, third, and fourth supraoculars; interparietal present; parietal eyespot present in interparietal; parietals in contact posterior to interparietal; nuchals undifferentiated. Nasal larger than nostrils; postnasals absent; loreals two, the posterior one larger than the anterior. Preoculars two; supraciliaries 10–11, in a continuous row, the first contacting prefrontal and first supraocular and the last projecting onto supraocular shelf; pretemporals two, both contacting parietal; suboculars in a complete row, the last one in contact with lower pretemporal; lower eyelid moveable, scaly; primary temporal one (in a single specimen left primary temporal scale transversely divided); secondary temporals two, upper elongate, overlapped by lower pretemporal (anteriorly) and parietal (dorsally); and by primary temporal ventrally; upper secondary temporal overlapping lower secondary temporal ventrally; two tertiary temporals, upper overlapping lower; supralabials seven, the fifth in subocular position; last supralabial subequal to the preceding supralabial; postsupralabials two. External ear opening 22.2–33.3% of eye diameter, circular, with short, broad, and pointed lobules. Mental and postmental wider than long, contacting first infralabial only; infralabials five; three pairs of enlarged chin shields, first pair in contact with each other; second and third pairs of chin shields separated by a single scale; third pair of chin shields separated from infralabial row by a sublabial row. Body moderately long (trunk length 54.2–55.8% of SVL). Scales cycloid, striae on dorsal, lateral, and ventral scales; longitudinal scale rows at midbody 26–28; paravertebral scales 42–45 (scales on anterior half of the body somewhat wider than the posterior half); ventral scales 55–59; inner preanals overlapped by outer. Both pairs of limbs pentadactyl; forelimb

length 29.1–30.1% of SVL; hind-limb length 39.3–43.4% of SVL; subdigital lamellae under fourth digit of manus 14–15; subdigital lamellae under fourth digit of pes 19–21; two rows of supradigital scales; SVL 41.5–58.5 mm; SVL 3.9–4.3 times head length; unregenerated tail length 85.1–86.0 mm (three examples).

Color in Life. Reddish-brown ground color with series of white dashes dorsally and laterally on neck; a distinct white subocular spot. Supralabials and infralabials with black spots; tail reddish brown with interrupted black longitudinal lines at base.

Color in Preservative. Generally, body color light brown; lateral and ventral sides dusky white. Interrupted indistinct dark-brown longitudinal lines on dorsum, prominent on tail base; similar markings well defined on hind-limbs. Supralabials and infralabials with black spots.

Distribution. This species has been reported only from forested areas of southwestern Sri Lanka, including the Sinharaja WHS, Kanneliya Forest Reserve, Kombala-Kottawa Forest Reserve, and Beraliya Forest Reserve (Batuwita and Pethiyagoda, 2007). Peabotuwage et al. (2012) also recorded it from Udamaliboda (in the Peak Wilderness) (Fig. 28).

Natural History Notes. Specimens were observed in leaf litter and under large stones. It also shows semiarboreal behavior (see DISCUSSION). Relatively long tail (1.5–2.1 times SVL) may facilitate it. It is a rare species hitherto known from a few specimens. Nothing is known of its reproduction; only males and one juvenile are in the collections of the NMSL and WHT. It is sympatric with the following lizards: *L. fallax*, *L. gansi*, *E. carinata*, *E. greeri*, *N. gansi* and *O. wiegmanni*.

Comparisons. Here I compare *L. greeri* with other congeners, listing only opposing suites of character states. *Lankascincus taprobanensis*: prefrontals widely separated and six supralabials; *L. fallax*: two primary temporals, adpressed limbs not overlapping, and 15–18 subdigital lamellae under fourth digit of pes; *L. megalops*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. deignani*: adpressed limbs slightly overlapping and no suborbital pale spot; *L. dorsicatenatus*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. taylori*: single supradigital scale row and 11–15 subdigital lamellae under fourth digit of pes; *L. gansi*: last supralabial smaller than the preceding supralabial and secondary temporals separated; *L. sripadensis*: 51–55 paravertebral scales and no suborbital spot.

Remarks. Extreme east coordinate (Morningside Forest Reserve) for the distribution records of *L. greeri* by Batuwita and Pethiyagoda (2007; fig. 2) is in error.

KEY TO THE SPECIES OF *LANKASCINCUS*

1A. Secondary temporals separated or in contact (when in contact, upper secondary temporal distinctly more elongate than the lower) 2
1B. Secondary temporals in contact and subequal in size ..... *L. fallax*
2A. Supralabials seven or eight; prefrontals broadly contacting or narrowly contacting or widely separated (suture between frontonasal and frontal less than a half of the length of posterior border of frontonasal) 3
2B. Supralabials six; prefrontals widely separated (suture between frontonasal and frontal about half of/more than the length of posterior border of frontonasal) ..... *L. taprobanensis*
3A. Primary temporal one; secondary temporals in contact with each other 4
3B. Primary temporals two; secondary temporals separated by upper primary temporal and lower tertiary temporal 5
4A. 16–21 subdigital lamellae under fourth digit of pes; limbs relatively long; two or more rows of supradigital scales ... 6

4B. 11–15 subdigital lamellae under fourth digit of pes; limbs relatively short; one row of supradigital scales ..... *L. taylori*

5A. 15–19 subdigital lamellae under fourth digit of pes; limbs well developed; two or more rows of supradigital scales; females with light brown dorsolateral stripe 7

5B. 11–13 subdigital lamellae under fourth digit of pes; limbs moderately developed; one row of supradigital scales; both sexes with uniform dorsum coloration ..... *L. gansi*

6A. 42–48 paravertebrals; lacking a dorsolateral stripe 8

6B. 51–55 paravertebrals; having a dorsolateral stripe ..... *L. sripadensis*

7A. 40–46 paravertebrals; adpressed limbs not overlapping; females with dorsolateral line half scale row in width .. .. *L. dorsicatenatus*

7B. 47–50 paravertebrals; adpressed limbs overlapping; females with dorsolateral line one-and-a-half to two scale row/s in width ..... *L. megalops* new combination.

8A. Males with a distinct white suborbital spot; forelimb length 29.1–30.1% of SVL; hind-limb length 39.3–43.4% of SVL ..... *L. greeri*

8B. Males lack a white suborbital spot; forelimb length 21.8–25.9% of SVL; hind-limb length 29.1–34.5% of SVL ..... *L. deignani*

DISCUSSION

Higher Taxonomy and Biogeography

Greer (1991) suggested an affinity of *Lankascincus* to the South Indian skink genus *Ristella* and provided several shared characters in support of this relationship. Scincid lizards of the Ristellini new tribe possess the following characters: premaxillary teeth 11 or more, Meckel's groove completely closed by overlapping and fusion of dentary, parietals meet behind interparietal; parietal bordered along its posterior edge by two or more temporals, nuchals undifferentiated; outer preanal scales overlap inner preanals, scales on dorsal surface of all digits either in a single row or with additional one or two short rows (Greer, 1991; Austin et al., 2004; Wickramasinghe et al., 2007; Batuwita and Pethiyagoda, 2007; Hedges, 2014; personal observation). Greer (1991) mentioned that further studies were needed to investigate *Lankascincus* hemipeneal morphology (either deeply bifurcate or not deeply bifurcate) to assist in determining the affinity of *Lankascincus* with the two major lygosomine skink lineages (Greer, 1979), the Sphenomorphini and the Eugongylini. The present study reveals that *Lankascincus* lacks a deeply bifurcate hemipenis, which together with other characters support a closer affinity to the Eugongylini than the Sphenomorphini. In addition, I confirm the lack of retractile claws in *Lankascincus* (vs. present in *Ristella*), which was mentioned by Greer (1991) as one of the characters to diagnose *Lankascincus* from *Ristella*. However, true retractile claws have not yet been confirmed to occur in lizards, and the reportedly retractile claws may just be deeply ensheathed in *Ristella* (A. M. Bauer, personal communication).

A high level of lineage endemism in the Sri Lankan fauna (e.g., freshwater fish, freshwater crabs, rhacophorid frogs, caecilians, and uropeltid snakes) was reported by Bossuyt et al. (2004). *Lankascincus* lizards may be a new addition to this list. However, hitherto no comprehensive genetic data are available on both genera to assess their relationship. The recent studies on these genera are simply based on Greer's (1991) earlier statement that *Lankascincus* and *Ristella* might be related. Austin et al. (2004) showed that *Lankascincus* represents an independent lineage separated from the following groups: the *Eugongylus* group (Eugongylini), the *Mabuya* group (Mabuyidae Mittleman by Pyron et al., 2013), the *Egernia* group

(Egerniani), and the *Sphenomorphus* group (Sphenomorphini) and stated that more samples are needed to resolve the phylogenetic affinity of the *Lankascincus* group (Ristellini new tribe) with the other groups. Austin et al. (2004) also speculated that the rapid radiation of the lygosomines in their early evolutionary history may be a cause for the very short internodes interconnecting the major lineages (Austin et al., 2004; fig. 2). Pyron et al. (2013) showed that *Lankascincus* and *Ristella* can be strongly placed in the family Mabuyidae (i.e., *Mabuya* group) and stated, however, that the latter two genera including *Eumecia* Bocage and *Eutropis* Fitzinger cannot allocated to subfamilial groups. Following Pyron et al. (2013), Hedges (2014) recognized several groups as distinct families and named two new families including Ristellidae for *Lankascincus* and *Ristella*. However, this higher-level taxonomy of skinks needs further reassessment because comprehensive genetic data of certain genera are still unavailable (e.g., *Lankascincus*, *Ristella*, and the endemic *Eutropis* clade found in second and third peneplains of Sri Lanka).

Changes to *Lankascincus* Species Taxonomy

Lankascincus taprobanensis is one of the most distinctive species in the genus, with several unique, and apparently apomorphic, characters (Greer, 1991; personal observation; see *Diagnosis*). Most of these characters relate to its head scalation. This may be due to its subfossorial behavior (see *Remarks*). Despite its distinctive morphology, several authors have recorded the species from the lowland wet zone (Günther, 1864; Boulenger, 1887; Smith, 1935; Taylor, 1950; Deraniyagala, 1953), whereas this study considers it restricted to the Central Hills. Lowland records belong to other species of *Lankascincus*. Examination of two syntypes of *L. taprobanensis* and 11 specimens from near the type locality in the Central Hills (>1,500 m msl) (i.e., Peak Wilderness, Loolcondera Estate, Horton Plains, and Namunukula Range) confirmed the combination of characters for *L. taprobanensis*. Wickramasinghe et al. (2007) collected *L. munindradasai* from a similar elevation (~1,800 m msl) and diagnosed *L. munindradasi* from *L. taprobanensis* by having one loreal, broader than its height (this condition evidently represents the reduction or fusion of the two loreal scales of other species), the loreal/s contacting the prefrontal, frontonasal, nasal, first or second (or both) supralabial scales, and both upper and lower preoculars. All of these characters were also observed among the syntypes of *L. taprobanensis*, and other specimens of that species. Of the 11 specimens examined, two specimens from the type locality have a single loreal (bilaterally in one specimen [WHT 2014] and unilaterally in one specimen, one loreal scale in the right side of WHT 2097B). Another two specimens from Loolcondera Estate (WHT 6573) and from Namunukula Range (WHT 1509) had bilaterally one loreal scale and one loreal scale in the left side, respectively. Conversely, one specimen (WHT 2016) from Peak Wilderness, close to the type locality of *L. munindradasai*, had two loreal scales on both sides. Wickramasinghe et al. (2007) noted several other putative differences between *L. taprobanensis* and *L. munindradasai*. However, a single primary temporal, ascribed to *L. munindradasai*, was also observed in the syntypes of *L. taprobanensis* and all other material of this species I examined. It is evident that Wickramasinghe et al. (2007) have misidentified this character in *L. taprobanensis*. The number of subdigital lamellae under the fourth digit of the manus and pes of *L. munindradasi* also overlaps that of *L. taprobanensis*, 8 (vs. 7–10 in *L. taprobanensis*) and 13 (9–13) respectively. Throat color differences were mentioned by Wickramasinghe et al. (2007): males with light blue

throat coloration in *L. munindradasai*. *Lankascincus taprobanensis* from Horton Plains (near type locality) also shows blue and white throat coloration. Throat coloration is highly variable in *Lankascincus*: e.g., in *L. fallax*, *L. sripadensis*, and *L. gansi* (see Greer, 1991; Wickramasinghe et al., 2007; personal observation), and has minor diagnostic value among species in this genus. Thus, I conclude that *L. munindradasi* is conspecific with *L. taprobansensis* and a junior subjective synonym of it. Although the two species were described from two discrete localities (but within the same elevation zone, ~1,800–2,200 m msl) of the Central Hills (Nuwaraeliya and Peak Wilderness), other reptile and amphibian species that span across both areas do not show any differentiation between the two areas (e.g., *Adenomus kandianus* (Günther), *Ceratophora stoddartii* (Gray), *Taruga eques* (Günther), and many *Pseudophilautus* spp. including *P. schmarda* (Kelaart) and *P. stellatus* (Kelaart)) (Manamendra-Arachchi and Pethiyagoda, 1998, 2005; Wickramasinghe et al., 2013; Meegaskumbura et al., 2015; personal observation). Hence, my conclusion is supported on geographic grounds as well.

Greer (1991) used divided frontoparietals to distinguish his new species *L. deraniyagalae* from *L. fallax*. I observed a modest number ($n = 10$) of *L. fallax* specimens from the Central Hills that are in accordance with the characters of the type series of *L. deraniyagalae* (14–18 subdigital lamellae under fourth digit of pes and two primary temporals in contact; upper larger than lower and last supralabial subequal to the preceding supralabial), except for having fused frontoparietals. Body proportions, clutch size, and coloration (e.g., dark throat of males [Fig. 9 vs. Fig. 14] and unique female coloration, Fig. 11 vs. Figs. 15–16) of the type series of *L. deraniyagalae* coincide with *L. fallax*, suggesting that *L. deraniyagalae* may represent variation in the fusion of frontoparietals within *L. fallax*. This view is supported by the single female paratype of *L. deraniyagalae* (SMF 15460) from the 'Point de Galle' (south coast near Galle), unlike the other members of the type series, which were all from the Central Hills. Only *L. fallax* has subsequently been found near Galle. Thus, I here conclude that the BMNH type series (the holotype and the paratypes) and the SMF 15460 female paratype of *L. deraniyagalae* represent *L. fallax* (the MCZ paratypes belong to a different species, see below). As the name-bearing holotype (BMNH 1895.7.23.28C) of *L. deraniyagalae* Greer, 1991 is *L. fallax*, *L. deraniyagalae* is a junior subjective synonym of *L. fallax* (ICZN, 1991: Art. 61.3.1).

The holotype of *L. deignani* was collected from 'Mount Ganoruwa (Ganngarowa?) Peradeniya, Kandy District, Central Province, Ceylon' (=Sri Lanka) (Taylor, 1950), but I did not find *L. deignani* near Gannoruwa until late 2007 (Batuwita, 2000; Batuwita and Pethiyagoda, 2007). However, it had been reported from the Central Hills (Greer, 1991; Wickramasinghe et al., 2007; Somaweera and Somaweera, 2009), at the following localities: Dickoya, Talawakele, Kotagala, Uwa Warahena, Punduluoya, Nanuoya, Agarapatana, Dimbula-Patana, Bogawanthalawa, and Labukele (Greer, 1991; Batuwita and Pethiyagoda, 2007), where it was thought to be a common species. My examination of a photograph of the holotype of *L. deignani* and the discovery of recent material from Gannoruwa, together with a record from Ambagamuwa (Ukuwela and Nayana Pradeep Kumara, 2004 [recorded as a new species of skink]), reveals the true identity of *L. deignani*. It is quite different from the species from the Central Hills identified as *L. deignani* by previous authors (Greer, 1991; Wickramasinghe et al., 2007; Batuwita and Pethiyagoda, 2007). I have examined specimens identified as *L. deignani* from Gannoruwa, listed by Wickramasinghe et al. (2007, Appendix 1) in the NMSL, and reidentified them as *L. taylori*. Hence,

Wickramasinghe et al. (2007) compared their *L. sripadensis* with *L. taylori* (Fig. 40, a paratype from Gannoruwa; note the limb proportions), not with true *L. deignani*.

Re-examination of materials from the Central Hills previously referred to as *L. deignani* from Nuwaraeliya and its environs reveals that they are *L. sripadensis*. In addition, I confirm that the paratypes of *L. deraniyagalae* (=*L. fallax*) in the MCZ also represent *L. sripadensis*. Examination of these three specimens (MCZ R 39837–39839) shows that one character state ("primary temporals double") described by Greer (1991) for *L. deraniyagalae* is wrongly interpreted for the MCZ material (Figs. 45–47). The MCZ paratypes have a single primary temporal scale and two pretemporal scales. *Lankascincus sripadensis* shares the following characters with MCZ paratypes of *L. deraniygalae* (now a new synonym of *L. fallax*; this paper): number of primary temporals (Figs. 45–47 vs. fig. 9A of Wickramasinghe et al., 2007), seven supralabials, last supralabial subequal to the preceding supralabial, overall body coloration, presence of dark-brown dorsolateral line, and also body proportions (Table 4).

Reidentification of *Sphenomorphus* Records from Sri Lanka

The present study confirms that previous records of *Sphenomorphus* species from Sri Lanka are based on misidentified species of *Lankascincus* and hence that *Sphenomorphus* Fitzinger does not occur in Sri Lanka. *Lankascincus* differs from *Sphenomorphus* by having greater number of premaxillary teeth (11 vs. 9), Meckel's groove is completely closed (vs. open), two or more temporals (vs. two or more temporals and a nuchal) bordered the parietal along its posterior edge; nuchals absent (vs. present), and outer preanal scales overlap inner preanals (vs. inner preanal scales overlap the outer preanals). I did not observe the above combination of characters for *Sphenomorphus* in any Sri Lankan lygosomine skinks.

Annandale (1906) placed *Lygosoma megalops* in the subgenus *Keneuxia* Gray. However, Annandale's allocation is in doubt because one of the unique characters of the latter genus is a flat oval plate (scale) behind the heel (see Gray, 1845). This unique character is absent in *Lygosoma* (*Keneuxia*) *megalops* (see Annandale, 1906). Apparently, Annandale (1906) placed this species in the subgenus *Keneuxia* on the basis of Boulenger's (1887) description and using the following characters: smooth dorsal scales, no supranasals, and adpressed limbs overlapping. Moreover, according to Gray (1845), smooth body scales only found in *Scincus* Fitzinger: "Scales thin, smooth, not striated nor keeled, unarmed." Hence, smooth dorsal scales of *L. (Keneuxia) megalops* might have been represented by unkeeled scales with striae. Annandale's (1906) description of *L. (Keneuxia) megalops* (transferred to *Sphenomorphus* by Mittleman [1952]) is reminiscent of a *Lankascincus*, sharing with this genus the following combination of characters: rostral much broader than deep, forming a straight suture with the frontonasal; supranasals absent; nasal undivided, frontal nearly as long as frontoparietals and interparietal together; distinct nuchals absent; supraoculars four; body scales subequal, imbricate, 24–26 rows mid-body (22–28 in *Lankascincus*), preanals and caudals not enlarged. Of several characters mentioned by Annandale (1906), two characters were considered unique to *Sphenomorphus megalops* by Taylor (1950) and Deraniyagala (1953): feebly keeled ventral scales and the arrangement of the parietal scales (completely separated by the interparietal). However, the first character may represent body scale striae, which are present in most Sri Lankan skinks including *Lankascincus*. The second character may represent an individual variation (the original description was based on a single specimen because he

mentioned only a single specimen's measurements; see Annandale, 1906), because such variations are common in *Lankascincus*, including partially divided parietal scale and interparietal scale (*L. deignani*) (Fig. 25), fused prefrontals (*L. fallax*, *L. sripadensis*), paired frontoparietals (*L. fallax*), and partially or completely divided temporal scales (*L. fallax* and *L. greeri*). Moreover, a skink with smooth dorsal body scales (unkeeled scales with striae), without supranasals and with well-developed pentadactyl limbs together with the proportions noted by Annandale (1906) (length from snout to forelimb contained about 1.5 times the axilla-to-groin length) only fits *Lankascincus*. All other Sri Lankan lygosomine skinks (*Eutropis*; *Lygosoma* Hardwicke and Gray; and *Dasia* Gray) possess supranasals. According to Annandale (1906), the syntypes of *S. megalops* were collected from Kitulgala (Sabaragamuwa Province) and Puttalam (North Western Province). Deraniyagala (1953) stated that the types of *S. megalops* were lost. The absence of syntypes of *S. megalops* in the NMSL collection has subsequently been confirmed by several authors (Greer, 1991; Austin et al., 2004; Batuwita and Pethiyagoda, 2007). This species has long been treated as data deficient because of lack of identified specimens (IUCN, 1999, 2007, 2012); hence, its identity is here stabilized through the designation of a neotype (ICZN, 1999; Art. 75.3. and 75.3.1., 75.3.2., 75.3.2.3) to fix its identity. I observed only a single species of skink from Kitulgala, one of the type localities, a *Lankascincus*, which accords with most of the characters mentioned by Annandale (1906) for *Lygosoma megalops*. The same *Lankascincus* species has also been collected from Ambagamuwa and Hantana. However, the second type locality mentioned by Annandale (1906), Puttalam (in the dry zone) is far from Kitulgala (~200 km) and the only known *Lankascincus* from Puttalam is *L. fallax* (not exceeding 43.5 mm SVL [21 examples] vs. ~50.0 mm. [2 inches] in *L. megalops* syntype specimen). Hence, the second syntype locality, Puttalam, for *S. megalops* here considered is in error. *Lankascincus fallax* is easily distinguished from Annandale's description of *L. megalops* and the species from Kitulgala by adpressed limbs not overlapping (vs. overlapping) and second supraocular larger than the others (vs. supraoculars subequal). Therefore, I allocate the Kitulgala population to *L. megalops* (Annandale) and designate a neotype from Kitulgala. Relatively long limbs (limbs overlapping when adpressed, Annandale [1906]) are only present in *L. deignani, L. sripadensis, L. greeri*, and the Kitulgala *Lankascincus* species. *Lankascincus sripadensis* is distinguished from *L. megalops* by the presence (vs. absence) of a dark dorsolateral line and a large second supraocular (vs. supraoculars subequal), and also a very different distribution, confined to the Central Hills (~1,200 m msl) around Nuwaraeliya, whereas *L. megalops* inhabits Kitulgala, Hantana, and Ambagamuwa (~300–700 m msl). *Lankascincus deignani* differs from *L. megalops* by having a greater number of mid-body scales (28 vs. 24–26 in *L. megalops*), second supraocular larger than others (vs. supraoculars subequal), and a distinct spotted coloration in limbs and head (vs. uniform dark-brown coloration). In addition, *L. deignani* was described from Gannoruwa (near Kandy). The type locality of *L. megalops* and the type locality of *L. deignani* are ~ 60 km apart in straight-line distance. The third species with relatively long limbs is the recently described *Lankascincus greeri*. The type series of *L. greeri* was collected from the lowland wet zone, far (~150 km) from the type locality of *L. megalops*. In addition, *L. greeri* is distinguished from *L. megalops* by having a large second supraocular (vs. subequal supraoculars in *L. megalops*), frontal shorter than frontoparietals and interparietal together (vs. frontal nearly as long as frontoparietals and interparietal together), a distinct subocular pale spot (vs. no spot),

and reddish-brown dorsal coloration (vs. uniform dark-brown coloration).

The record of *Sphenomorphus dussumieri* from Peradeniya in the Central Hills of Sri Lanka (Deraniyagala, 1931, 1953) is possibly in error (Austin et al., 2004; Somaweera and Somaweera, 2009). Deraniyagala (1931) did not provide the exact locality from where he collected or received the specimen. Many other species reported in the mid-20th century from Peradeniya have also not been subsequently recorded from this region (e.g., *Calotes ceylonensis* (Müller), *C. liocephalus* Günther, *C. nigrilabris* Peters, *Chalcidoceps thwaitesi* (Günther) [Bahir and Surasinghe, 2005; Amarasinghe et al., 2014; personal observation]). Deraniyagala (1931) gave 38 scales around mid-body for his specimen. No other lygosomine skink from Sri Lanka is known to have such a high mid-body scale count: *Lankascincus* (22–28), *Eutropis* (26–32), *Lygosoma* (24–28), and *Dasia* (22–24) all have much lower numbers of scales at mid-body, but a similarly high number of scale rows can be recorded for *Lankascincus* when the count is taken behind forelimbs (see also Taylor, 1950). Deraniyagala (1931) also mentioned that there were no supranasals in his specimen. Only *Lankascincus* lacks supranasals among the lygosomine skinks of Sri Lanka. Within *Lankascincus*, the locality and morphological characters mentioned by Deraniyagala (presence of a large temporal, 'double row of carinate rugae in thumb, unicarinate in toes', six lamellae under the first digit of pes, and 20 lamellae under the fourth digit of pes) fit only *L. deignani* or *L. taylori* (but 11–15 subdigital lamellae under fourth digit of pes; this paper). In addition, Deraniyagala's (1931) specimen had overlapping adpressed limbs and it was about 43.0 mm in SVL. Only *L. deignani* has the former character (limbs widely separated when adpressed in *L. taylori*). Hence, I speculate that Deraniyagala's specimen might have been a subadult specimen of *L. deignani*.

Interspecific Variations of *Lankascincus*

I recognize three major groups of *Lankascincus* on the basis of morphology and breeding biology.

The fallax *Species Group*. Prefrontals widely separated (Fig. 7) or in contact with each other; frontoparietals fused (Fig. 7) or rarely paired; primary temporals two, in contact, upper larger than lower (Fig. 8); secondary temporals two, subequal in size, in contact with each other; upper secondary temporal overlapped by lower pretemporal (anteriorly) and parietal (dorsally) and by upper primary temporal ventrally; upper secondary temporal overlapping lower secondary temporal ventrally; two or three tertiary temporals; last supralabial subequal to the preceding supralabial; postsupralabials two, subequal; sexual dimorphism in coloration; left oviduct present; and clutch size two. Species included: *Lankascincus fallax* (the type species of *Lankascincus*).

The taprobanensis *Species Group*. Prefrontals widely separated (Fig. 2) or in contact with each other (Fig. 25); one primary temporal (Fig. 24); frontoparietals two (Fig. 25); secondary temporals two, upper elongate, overlapped by lower pretemporal (anteriorly) and parietal (dorsally) and by primary temporal ventrally; upper secondary temporal overlapping lower secondary temporal ventrally; tertiary temporals two or three; last supralabial subequal to the preceding supralabial; postsupralabials two, subequal; sexes alike in coloration; left oviduct present; and clutch size two. Species included: *L. deignani* (clutch size unknown), *L. greeri* (clutch size unknown), *L. sripadensis*, *L. taprobanensis*, and *L. taylori*.

The dorsicatenatus *Species Group*. Prefrontals narrowly separated or in contact with each other; frontoparietals two; primary temporals two (Fig. 19); secondary temporals two, separated by upper primary

temporal and lower tertiary temporal (Fig. 19); upper secondary temporal large, not elongate, overlapped by lower pretemporal (anteriorly) and parietal (dorsally), and overlapped by upper primary temporal ventrally; upper secondary temporal overlapping lower tertiary temporal ventrally; tertiary temporals two; last supralabial smaller than the preceding supralabial; postsupralabials two, upper large; sexual dimorphism in coloration; left oviduct absent; and clutch size one. Species included: *L. dorsicatenatus*, *L. gansi*, and *L. megalops*.

Intraspecific Variations of *Lankascincus*

Lankascincus fallax is the most common and widespread *Lankascincus* in Sri Lanka. It is distributed from Northern Peninsula to Southern Province of Sri Lanka, including high-elevational localities like Kotagala and Punduloya (near Talawakele, ~1,200 m msl). Taylor (1950) described *Sphenomorphus rufogulus* (=*L. fallax*) from Eastern Province of Sri Lanka (type locality, 12 miles north of Trincomalee). Taylor's (1950) holotype (FMNH 120229) has the prefrontals in narrow contact, but in the original description, the illustration shows widely separated prefrontals (Taylor, 1950, fig. 5). Similarly, the syntype of Peters' (1860) *L. fallax* also has widely separated prefrontals. However, some wet zone populations of *L. fallax* have prefrontals in broad contact condition. Each population of *L. fallax* has red-throated and black-throated males. Most subadult males have red throat/belly coloration (see also Wickramasinghe et al., 2007), whereas mature males have either bright red or black throats. Other congeners (e.g., *L. taprobanensis*, *L. taylori*, *L. sripadensis*, *L. megalops*, *L. dorsicatenatus*, and *L. gansi*) also show variations in throat coloration in males (dark/white/plain). This may be a secondary sexual character linked to reproduction. Some other lygosomines also exhibit similar throat/belly color variations, e.g., male *E. carinata* has iridescent belly coloration (personal observation).

Figure 50. Lateral view of body of *Lankascincus* sp., in life, from Morningside Forest Reserve.

Lankascincus taylori is also widely distributed, found in both Wet Zone and Dry Zone. In the Dry Zone, it is restricted to the isolated mountains like Dolukanda (North Western Province), Nilgala, Moneragala, Rathugala (Uva Province), and it may extend to Ritigala (North Central Province). A single subadult specimen from the Namunukula Range (1,300 m msl) had 22 scales around the mid-body but in all other characters accorded with *L. taylori*. Lacking additional material, I tentatively placed this individual under the latter species. Future collections in the particular locality together with integrated taxonomic approaches will confirm its identity.

A possibly new species of *Lankascincus* with superficial resemblance to *L. gansi* is present in Morningside Forest Reserve (06°24′N, 80°38′E, 1,000 m msl). Represented by a few specimens in the WHT collection (now in NMSL), it has a more elongated body, with greater number of ventral scales and a distinctive coloration (orange-red body coloration and black-colored throat). I have observed and photographed (Fig. 50) this species in the Morningside Forest Reserve; however, the same coloration was also observed very rarely in *L. gansi* from Kanneliya (near Udugama [06°14′N, 80°20′E, 150 m msl], the type locality) and from Gannoruwa (07°17′N, 80°35′E, 700 m msl) in the Central Hills. Moreover, as mentioned by Gans (1995), some species of *Lankascincus* with a wide distribution range in the

lowland wet zone and in the Central Hills (*L. fallax, L. gansi*, and *L. taylori*) show lower numbers vs. higher numbers respectively for paravertebral and ventral scale counts. The relationships of these populations need to be resolved by integrated taxonomic approaches.

Distribution and Conservation of *Lankascincus*

Lankascincus skinks have often been termed "tree skinks" (De Silva and Somaweera, 2010; Uetz et al., 2016); however, this name is not suitable for them. The only partially arboreal species, which climbs small branches of undergrowth in the rain forests and has sometimes been found wandering on a particular rain-forest fern (wire fern, *Dicranopteris linearis*), is *L. greeri*. All other species, including *L. greeri*, are normally found in the undergrowth of forests or under decaying logs or within the debris. Therefore, "litter skink" is a more appropriate name. Presence of a partially arboreal species within the congeners revealed that there may be similar new species that may exist in Sri Lanka, especially the untouched, less-fragmented forests like the Peak Wilderness (Ratnapura-Palabathgala and Kuruwita trails) and the Sinharaja WHS (Deniyaya and Suriyakanda).

On the basis of their distribution, *Lankascincus* skinks can be divided into two groups. The first group consists of *L. sripadensis*, *L. fallax*, and *L. taylori*. These species can be found in altered habitats like home gardens, grasslands (e.g., Patana), secondary forests, and human settlements close to forest borders or buffer zones (including plantations). However, humidity is essential for the occurrence of these species. *Lankascincus sripadensis* is recorded from the mountains of the southern part of the Central Hills. *Lankascincus taylori* is a widely distributed species found in isolated mountains in the dry zone (rainfall less than 2,000 mm yr^{-1}) and wet zone (lowland [only in Sinharaja Forest], Central Hills, Knuckles Range, and Namunukula Range). This species is a very common lizard in the Central Hills (up to ~1,500 m msl).

The second group of species consists of largely pristine rain-forest dwellers: *L. deignani*, *L. dorsicatenatus*, *L. gansi*, *L. greeri*, *L. megalops*, and *L. taprobanensis*. Of these, *L. deignani* and *L. greeri* are considered very rare. *Lankascincus deignani*, in particular, is only known from its holotype and two recently collected specimens (Ukuwela and Nayana Pradeep Kumara, 2004; this paper). I speculate that the latter species maybe a crepuscular species, because on the basis of ~30 field visits to Gannoruwa Forest Reserve since 2000, I observed only a single specimen. Second, it maybe an arboreal species likes *L. greeri* on the basis of recent material found under a fallen epiphyte (*Drynaria* sp.). *Lankascincus greeri* is hitherto recorded only from the southwestern wet zone of Sri Lanka, between 80 and 400 m msl. Both species would seem to require a high conservation status, and need to be formally assessed by future conservation programs. Populations of *L. dorsicatenatus* and *L. megalops* are stable, but the existence of natural forests and perennial water bodies are crucial for their survival. *Lankascincus gansi* is restricted to rain forests with leaf litter within the wet zone (elevation ~80 m to ~1,000 m). Conversely, *L. taprobanensis* is restricted to high-elevation areas, >1,500 m msl and found only within the natural forests. This species is always observed in the forests but has not been observed at forest borders or in adjoining open areas, where it is replaced by *L. sripadensis*.

Lankascincus species exhibit distribution patterns that are correlated with an elevational gradient. The most common species, *L. fallax*, is distributed throughout Sri Lanka from the coasts to the Central Hills (including the lowland wet zone and dry zone) except above ~1,200 m msl. *Lankas-*

Table 5. List of recognized *Lankascincus* species, their present names, and taxonomic status.

Original Name	Present Name	Taxonomic Status
Eumeces taprobanensis	*Lankascincus taprobanensis*	valid
Lygosoma fallax	*Lankascincus fallax*	valid
Lygosoma (Keneuxia) megalops	*Lankascincus megalops*	valid
Sphenomorphus deignani	*Lankascincus deignani*	valid
Sphenomorphus dorsicatenatus	*Lankascincus dorsicatenatus*	valid
Lankascincus taylori	*Lankascincus taylori*	valid
Lankascincus deraniyagalae	*Lankascincus fallax*	synonym
Lankascincus gansi	*Lankascincus gansi*	valid
Lankascincus sripadensis	*Lankascincus sripadensis*	valid
Lankascincus munindradasai	*Lankascincus taprobanensis*	synonym
Lankascincus greeri	*Lankascincus greeri*	valid

cincus taylori is recorded from ~300 m msl to 1,500 m msl in the lowland wet zone, Central Hills, Knuckles Range, and Namunukula Range and extends to isolated mountains in the lowland dry zone. In contrast, several species are found within the wet zone only, including the lowland wet zone, Central Hills, Knuckles Range, and Namunukula Range (rainfall >2,000 mm yr^{-1}): *L. deignani* (~700–800 m); *L. sripadensis* (>1,200 m msl), *L. dorsicatenatus* (<500 m), *L. gansi* (~5–1,200 m); *L. greeri* (~60–400 m); *L. megalops* (~300–700 m); and *L. taprobanensis* (>1,500 m). Therefore, only three species are restricted to the high elevations of Sri Lanka: *L. deignani*, *L. sripadensis*, and *L. taprobanensis*. The latter two species are sympatric at some localities (e.g., Agarapatana and Peak Wilderness) and their general body coloration is very similar (only in *L. sripadensis*, however, do the adpressed limbs overlap), but neither has been found in sympatry with *L. deignani*. In the Gannoruwa forest, *L. deignani* is sympatric with *L. taylori* and *L. gansi*.

Sri Lanka is included in the biodiversity hot spots of the world along with the Western Ghats of India (Myers et al., 2000). Unfortunately, Sri Lanka's wet zone has a high human population density (~700 km^{-2}), which exceeds all other biodiversity hot spots (Cincotta et al., 2000). The diversity of *Lankascincus* is highest within the wet zone. Of nine species of *Lankascincus* (Table 5), seven have been reported only from the wet zone of Sri Lanka. Even though most of the wet-zone forests are included in the protected areas of Sri Lanka, assessments of vulnerable populations of these skinks (e.g., *L. deignani*) are needed because some species are very rarely found. The reason for this low abundance is a mystery.

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APPENDIX 1

Materials Examined Only for Distribution Records

Lankascincus taprobanensis. WHT 1927, Thangamale Plain, Haputale, Nuwaraeliya District (Central Province), 06°46′N, 80°55′E, 1,600 m; WHT 2015, four examples, 'Fishing hut', Peak Wilderness, Nuwaraeliya District (Central Province), 06°48′N, 80°31′E, 1,600 m; WHT 6787, Hakgala, near Hakgala Botanical Garden, Nuwaraeliya District (Central Province), 06°55′N, 80°49′E, 1,830 m.

Lankascincus fallax. WHT 1631 (seven examples), WHT 6754, Wasgamuwa National Park (North Central Province), 07°43′N, 80°59′E, 60 m; WHT 2012, Diyahonda Ella, Awissawella (Sabaragamuwa Province), 06°57′N, 80°13′E, 100 m; WHT 2055, Puwakpitiya, Knuckles Range (Central Province), 07°34′N, 80°45′E, 450 m; WHT 1835 (three examples), WHT 6724, Kumaradola Group, Moneragala (Uva Province), 06°53′N, 81°22′E, 305 m; WHT 5153, Bibilegama (Uva Province), 06°54′N, 81°08′E, 1,067 m; WHT 6550, Dimbula near Talawakele, Nuwaraeliya District (Central Province), 06°57′N, 80°38′E, 1,220 m; WHT 6556, Penideniya, near Peradeniya, Kandy District (Central Province), 07°15′N, 80°35′E, 450 m; WHT 6634, Kodagoda, near Imaduwa, Galle District (Southern Province), 06°02′N, 80°23′E, 60 m; WHT 6643, Boossa, Galle District (Southern Province), 06°05′15″N, 80°09′45″E, 2 m; WHT 6662, Welipitimodera, Gintota, Galle District (Southern Province), 06°04′N, 80°11′E, 10 m; WHT 6732, WHT 6746, Bambaragahana Ella (Central Province), 07°34′N, 80°45′E, 450 m; WHT 6733, Yala National Park (Southern Province), 06°22′N, 81°31′E, 5 m; WHT 6735, Polonnaruwa (North Central Province), 07°56′N, 81°00′E, 55 m; WHT 6740, Anuradhapura (North Central Province), 08°19′N, 80°24′E, 80 m; WHT 6748, Maratenna, near Balangoda (Sabaragamuwa Province), 06°45′N, 80°42′E, 1,281 m; WHT 6750, Katagamuwa (Southern Province), 06°25′N, 81°21′E, 30 m; WHT 6753, near Matale Rest House (Central Province), 07°28′N, 80°37′E, 355 m; WHT 6782, Warakawehera, near Kurunegala (North Western Province), 07°30′N, 80°29′E, 100 m; WHT 6783, Ihala Kalugala, Allauwa (Sabaragamuwa Province), 07°15′N, 80°16′E, 300 m; WHT 6785, Puttalam (near lagoon), (North Western Province), 08°02′N, 79°50′E, 1 m.

Lankascincus megalops. WHT uncatalogued, Ambagamuwa (Central Province), 07°01′N, 80°29′E, 760 m; WHT 6719, WHT 6727, WHT 6728, WHT 6729, WHT 6731, Nilapalagmmana, Nainakkada, Watura, near Kegalle (Sabaragamuwa Province), 07°11′N, 80°23′E, 305 m; WHT 6736, Owilkanda, Matale (Central Province), 07°27′N, 80°35′ E, 610 m.

Lankascincus dorsicatenatus. WHT 6619, Batadombelena, near Kuruwita (Sabaragamuwa Province), 06°47′N, 80°23′E, 480 m; WHT 6632, WHT 6633, Udugama, Galle District (Southern Province), 06°14′N, 80°20′E, 150 m; WHT 6658, Kombala-Kottawa Forest Reserve, Hiyare, near Galle (Southern Province), 06°04′N, 80°15′E, 60 m; WHT 6737, WHT 6745, Koskulana, Sinharaja WHS (Sabaragamuwa Province), 06°25′N, 80°27′E, 460 m.

Lankascincus taylori. NMSL 20072301, NMSL 20072302, NMSL 20072303, Gannoruwa, Kandy; WHT 1757, Kandy (Central Province), 07°17′N, 80°38′E, 465 m; WHT 5237, WHT 6786, Dolukanda, near Ibbagamuwa (North Western Province), 07°38′N, 80°25′E, 450 m; WHT 6640, WHT 6781, Hantana, near Peradeniya, Kandy District (Central Province), 07°14′30″N, 80°37′00″E, 760 m; WHT 6649, Badulla, Badulla District (Uva Province), 06°59′N, 81°03′E, 660 m; WHT 6677, WHT 6683, near Royal Botanical Garden, Peradeniya, Kandy District (Central Province), 07°15′N, 80°36′E, 460 m; WHT 6721, Knuckles Range (Central Province), 07°22′N, 80°51′E, 1200 m; WHT 6744, Ratugala, near Bibile (Uva Province), 07°17′N, 81°24′E, 300 m.

Lankascincus gansi. WHT 1619, WHT 6741, WHT 6749, three examples, Silverkanda, Deniyaya (Southern Province), 06°23′N, 80°37′E, 760 m; WHT 6612, Kitulgala (Sabaragamuwa Province), 06°59′31″N, 80°27′26″E, 345 m; WHT 6722, Mulawella, Sinharaja WHS (Sabaragamuwa Province), 06°23′N, 80°26′E, 460 m; WHT 6723, Koskulana, Sinharaja WHS (Sabaragamuwa Province), 06°25′N, 80°27′E, 460 m; WHT 6725, Nilapalagmmana, Nainakkada, Watura, near Kegalle (Sabaragamuwa Province), 07°11′N, 80°23′E, 305 m; WHT 6734, WHT 6738, WHT 6747, Mahawalatenna, near Balangoda (Sabaragamuwa Province), 06°35′N, 80°45′E, 515 m; WHT 6742, Bambaragahana Ella (Central Province), 07°34′N, 80°45′E, 450 m; WHT 6751, Nahitiya, Rakwana (Sabaragamuwa Province), 06°30′N, 80°34′E, 458 m; WHT 6752, Yagirala (Western Province), 06°22′N, 80°10′E, 30 m; WHT 6780, Gannoruwa Forest Reserve, near Peradeniya, Kandy District, 07°17′10″N, 80°35′30″E, 700 m.

Lankascincus sripadensis. WHT 2013 (six examples), 'Fishing hut', near Peak Wilderness, Nuwaraeliya District (Central Province), 06°48′N, 80°31′E, 1,370 m; WHT 6566, WHT 6686, WHT 6726, Agra Arboretum, near Torrington Estate, Agarapatana, Nuwaraeliya District (Central Province), 06°51′N, 80°41′E, 1,550 m; WHT 6739, Bogawantalawa-Balangoda Road near Bogawanthalawa (Central Province), 06°44′N, 80°41′E, 1330 m.

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